WORDS OR DEEDS: *The New Army Budget*

ARMY

FEBRUARY 1958
50¢

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TESTING AND TRAINING FOR PENTOMIC BATTLE

LOGISTICAL SUPPORT—New Offshore Landing Techniques

COMBAT FORCE—the Pentomic Airborne Division

VERSATILE IS THE WORD FOR ARMY HELICOPTERS. Seems like every day or so skilled Army aviators find new jobs for their air vehicles. Here an aviator from the 11th Helicopter Transportation Company of the Seventh Army positions a 450-pound cross on the steeple of a church at Bubkenberg, Germany

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ARMY

magazine of the **ASSOCIATION OF THE UNITED STATES ARMY**

Vol. 8 • No. 7 • February 1958

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ARMY is a professional military magazine devoted to the dissemination of information and ideas relating to the military art and science representing the interests of the entire Army. *ARMY magazine strives to* —

Advance man's knowledge of warfare in the fields of strategy, tactics, logistics, operations, administration, weapons and weapons systems.

Advance man's knowledge and understanding of the soldier as an individual, as a member of a trained unit, and as a member of the whole Army; emphasizing leadership, esprit, loyalty, and a high sense of duty.

Disseminate knowledge of military history, especially articles that have application to current problems or foster tradition and create esprit.

Explain the important and vital role of the United States Army in the Nation's defense and show that the Army is alert to the challenges of new weapons, machines, and methods.

Advance the status of the soldier's profession.

AUSA By Laws, Par. 13 Article II

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Design by Thomas Hickson

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ADVERTISING information and rates available from the Advertising Director or any of our advertising representatives, who are:

New York office—516 Fifth Avenue, Murray Hill 2-5253.
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THE MONTH'S MAIL

Queen of Battles

● I wonder if your staff or readers can trace the origin of "Queen of Battles" as applied to the Infantry? I have been searching for it for more than thirty months, with no tangible results.

It is my personal belief, after a suggestion by Mrs. Henry S. Parker of Fort Leavenworth, that the phrase stems from the game of chess, where the queen has considerably more mobility and freedom of movement than any other piece. If we liken chess to military operations, the queen and the infantry are the leaders and the primary keys to victory.

In the article "Chess" in *Encyclopedia Britannica* (1957 edition) there are some interesting facts which tend to point toward chess as being the origin of the slogan. If my assumption is reasonable, then perhaps the origin of the phrase stems from some military leader who was also an ardent chess fan.

LT. COL. DARREL G. COSTELLO
Fort Leavenworth, Kan.

● *The article in the* Britannica *to which Colonel Costello refers says: "The queen moves in any direction either diagonally or parallel to the sides of the board, whether forward or backward. There is no limit to her range over vacant squares; an opponent she may take; a piece of her own colour stops her. She is the most powerful piece on the board. . . ."*

One member of our staff, who admits failure after more than twenty-five years of search, is inclined to support Colonel Costello's assumption. The coat of arms of the U. S. Infantry Association, which first appeared on the cover of the Infantry Journal *for May-June 1913, bears the motto:* L'Infanterie, La Reine des Batailles. *There is no editorial explanation other than reference to "the eagle bearing the crown which rightfully belongs to 'the Queen of Battles'."*

Don't Overlook G5

● Lieutenant General Bruce C. Clarke's excellent article "Design for an Atomic Army" [January] was marred by one slip. He said that a field army designed to fight an atomic war in the North Temperate Zone should retain "the normal G1, G2, G3 and G4 staff set-up."

An army general staff of only four Gs has not been "normal" since 18 November 1954, for FM 101-5, bearing that date, specifies five. The assistant chief of staff, G5, "assists the chief of staff in the planning and coordination of those functions pertaining to . . . the civil population, government, and economy of areas in which armed forces are employed; and the conduct of civil affairs/military government operations."

The firepower and movement envisaged in atomic warfare are apt to involve the military in civilian affairs much more than in the past. The essentiality of G5 functions in a field army staff has been demonstrated by command post exercises held by the continental field army headquarters. For example, in Second U. S. Army's recent Trapline I, G5 functions played by Army Reserve CAMG units were considered essential to combat operations at army and division levels.

The increased distances, both laterally and in depth, undoubtedly will require more civil affairs/military government service. Therefore we will need additional CAMG units operating in the field army's area.

COL. KARL S. LANDSTROM
Washington, D. C., Chapter
Military Govt. Assn.

Locating Rocket Launchers

● Here is a nice problem for all present or future battlefield observers: How can you locate its launcher from the smoke trail of a rocket?

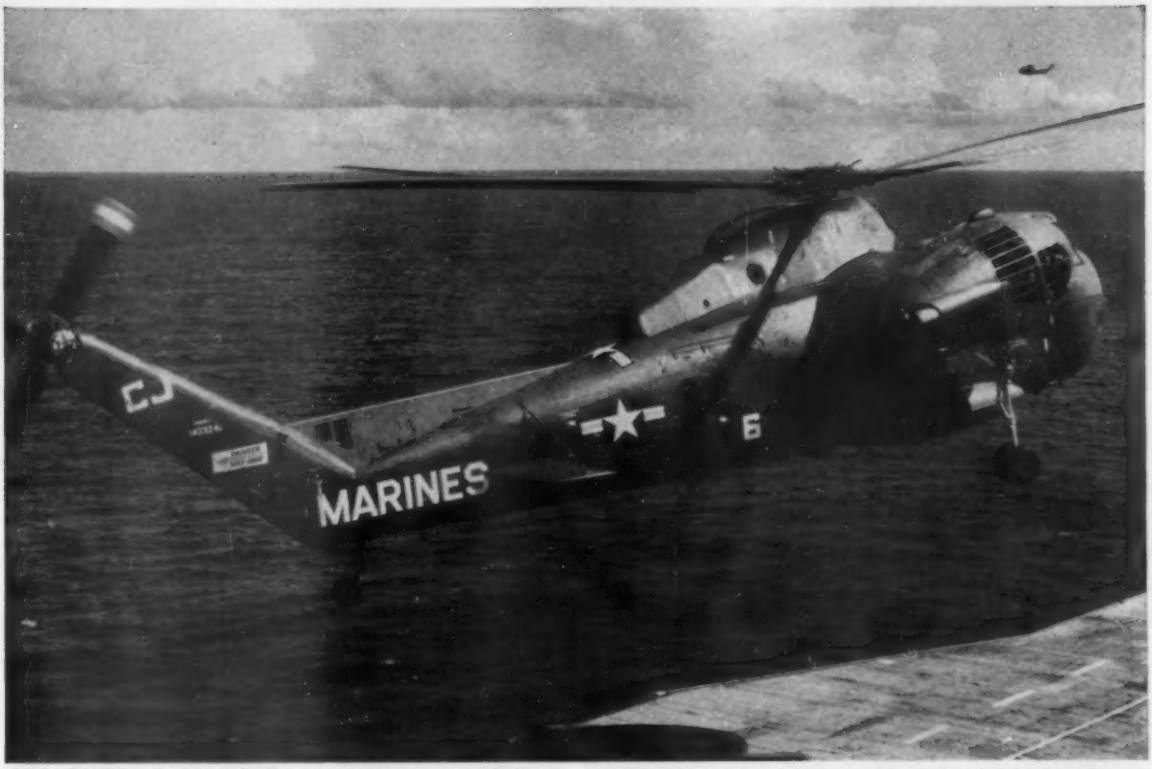
Let me explain. Many military rockets give off smoke trails or visible vapor trails during the burning period. These trails will remain visible at a range of 5,000 meters, for from ten to thirty seconds. Of course, the trails drift with the wind. They are often as long as 2,000 meters and their positions in the sky vary with the trajectories of the rockets. Normally, their origins are hidden by defilade.

Quite a few persons, some of them senior officers, swear that these smoke trails are arrows pointing directly to the launcher. Maybe they do point to the launcher, but I cannot find anyone who can read these arrows. Give a man a map, show him a smoke trail, and the best he can do is say that the launcher is behind that hill somewhere. BC scopes and other instruments won't help, because there are no definite points where two instruments can intersect.

Best estimates and horseback guesses

(Continued on page 7)

AROUND THE WORLD WITH SIKORSKY HELICOPTERS



SEA DUTY—Largest helicopter ever operated from an aircraft carrier is the twin-engined Marine Corps HR2S-1 (Sikorsky S-56), shown here landing aboard the carrier *Valley Forge*. Sikorsky HRS and HSS helicopters, seagoing veterans on a variety of Navy and Marine Corps missions, also flew from the carrier during recent fleet maneuvers off Guantanamo Bay, Cuba.

MISSILE MOVER—Army tests have demonstrated the ability of the big H-37 (S-56 type) to transport missiles, launchers, and support equipment as well as vehicles and other cargo. Here it unloads an Honest John missile. The H-37 normally carries 26 combat troops or about 3 tons of cargo.

FOR EMERGENCIES—Chance Vought Aircraft will use this Sikorsky S-58 for supporting the company's flight program, and for search, rescue, and salvage duties. The S-58 will also be available in the Dallas area for disaster relief and other public services, and will transport high priority passengers and cargo.

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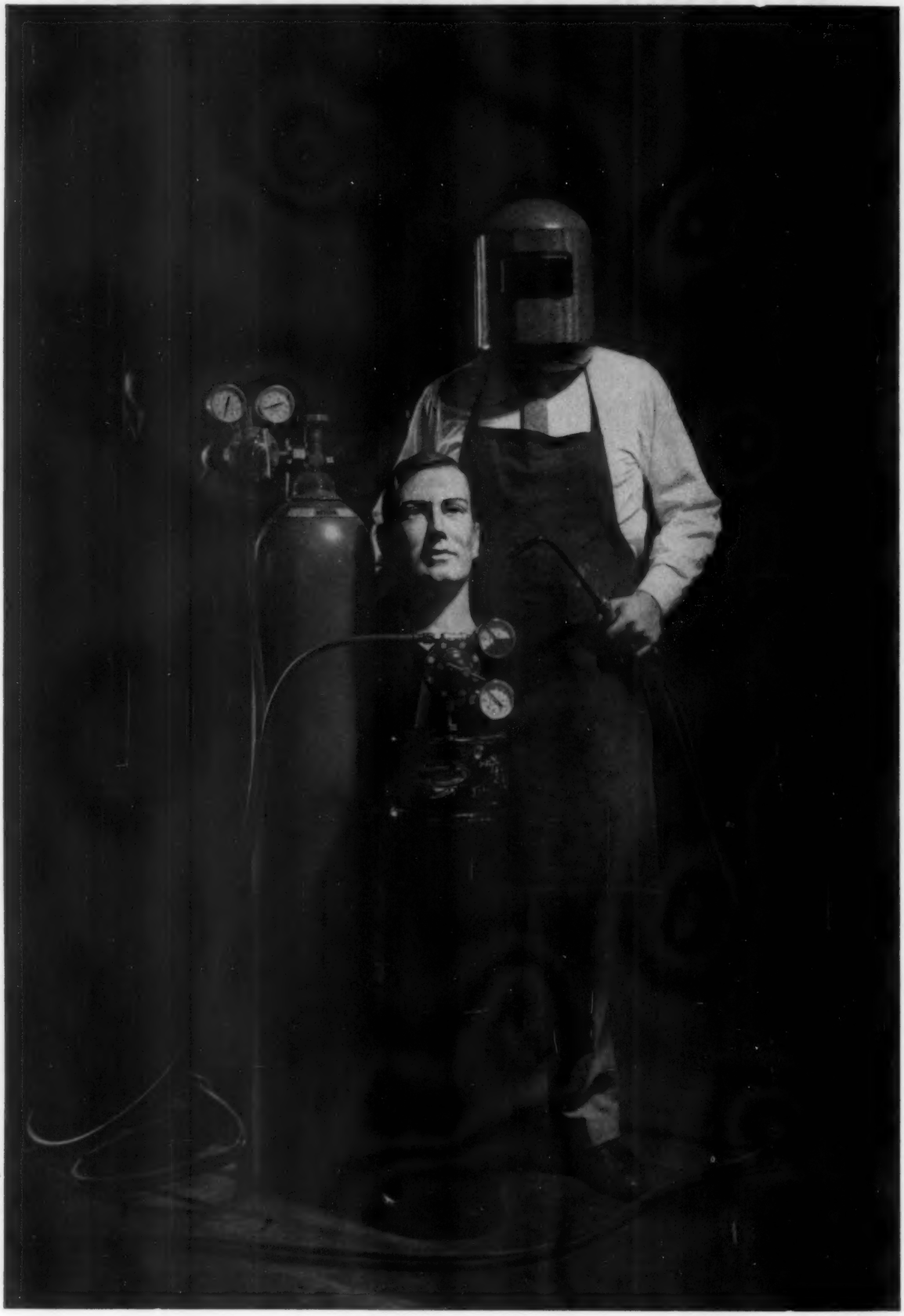


Is it possible to build a **MAN?**

"Theoretically, yes," said the scientist. "Or a reasonably remarkable imitation—a kind of mechanical analogue. Call it a habit machine, a mechanism operating according to the laws of the conditioned reflex."

You mean that you could actually build a mechanical mind? One that would exhibit emotions—such as love, fear, anger, loyalty?

"We're doing something like that now in advanced missile development," the scientist replied. "In a limited, highly specialized way, of course."

"Take the 'pilot' that is being developed for the big long-range missile. *He* has a wonderful memory, and can solve many complex navigational problems in a flash. *He* loves perfection, and actually becomes highly excited when *he* gets off course. *He's* a tough-skinned character, impervious to the cold at several hundred miles altitude and the incredible heat at re-entry. And *his* loyalty is heroic. *His* life is a single mission, the mission *his* whole life... and maybe ours, too. *He's* a pretty important *fellow.*"

What about the complete man-made Man? What would that entail?

"A mechanism the size of the capitol in Washington, and the best scientific resources in the world. But it could be done. You see, it's only a question of how physical matter is organized. As a great biophysicist explained, 'If material is organized in a certain way, it will walk like a man. If it is organized in another way, it will fly like a missile.'"

Still, wouldn't there be something missing in the complete man-made Man—something very important?

"Yes," said the scientist. "A soul."

MARTIN

BALTIMORE·DENVER·ORLANDO

The Month's Mail

(Continued from page 4)

are not good enough for the artillery. To deliver quick and effective counterbattery fire, the artilleryman needs a minimum accuracy of launcher location within a hundred meters. How are we going to get it?

If anyone has an idea, the Gunnery Division, USA Artillery Board, Fort Sill, Oklahoma, will be glad to hear of it.

COL. E. G. SHINKLE

Fort Sill, Okla.

More than an MOS

• I disagree with Colonel Heymont's reasoning in "Commissions for Leaders Only" [November 1957]. His article does not follow the thoughts of many career intelligence officers who have been in the game for fifteen or twenty years and are still learning it. An intelligence specialist requires more than an MOS.

LT. COL. GEORGE L. HORSMAN

APO 949, Seattle

Sure-Fire Bayonet Training

• Captain Harlan G. Koch looks forward in "Bayonet Training—M1905?" in the September issue. The arguments he puts forth on realistic bayonet training are sound. Captain Koch can be assured of strong support from the Marine Corps.

The Marines began using the Seidler system after lengthy tests, and now it is *the* method of bayonet training throughout the Corps. After seeing it used and noting the tremendous aggressive spirit it instills and its ready application to close combat, we bought it, and quick.

The pugil stick is very simple to make. It has the relative size of the M1 rifle and two sponge rubber ends covered with canvas. Add a football helmet or tin hat, and a groin guard, and you're in business.

I know the Army always seeks means to instill real aggressivenes in its troops. I'll guarantee that this type of bayonet training is a sure-fire cinch to fire 'em up.

CAPT. J. W. DUNCAN
USMC

Columbia, S. C.

Plan Krankheit

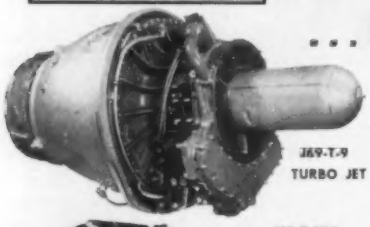
• *Ich will schmeitt Captain Smozzle II* ["Men Were Obsolete," January] *mit ein Grosser Lawsuit (für das Schnappen-up von meines Kriegsplan) schlagen. Aber schnell!*

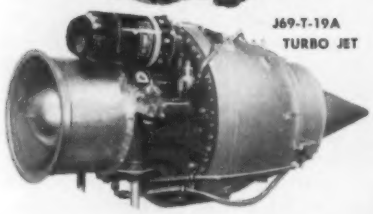
Dr. von Krankheit u. Hillersleben

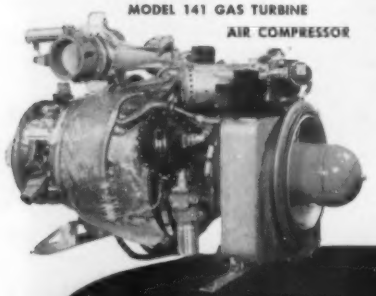
Newark, Ohio

Our translation of the Herr Professor's fractured German indicates he wants full credit for having beaten Captain Smozzle to the punch in "Victory Through No Power at All" [September 1955] and in "Strength Through Reduction" [September 1957]. THE EDITORS.

THESE ENGINES ARE NOW IN PRODUCTION AT C. A. E.


J69-T-9 TURBO JET


J69-T-19A TURBO JET


MODEL 141 GAS TURBINE AIR COMPRESSOR

... the T-37 Twin Jet Trainer with C. A. E. Turbine Power

Air Corps flight training routine took a significant step forward recently, when the T-37 twin jet trainer entered its Phase VIII testing at Bainbridge Air Base, Georgia. Twenty hand-picked officers embarked on a course known as PROJECT PALM, with the two-way goal of training for them, and suitability testing for the plane. This new high-performance ship advances the jet phase of fliers' training to an earlier stage in the training schedule, speeding the transition from propeller-driven planes to jets, with gains in both safety and economy. Twin J69-T-9 turbines by C.A.E. provide the power.

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THE ARMY'S MONTH

The recent inactivation of seventeen antiaircraft gun battalions by the U. S. Army Air Defense Command marked the end of a chapter in Army air defense in continental United States. The big 120mm and 90mm guns, which had been the bulwark of the ground-to-air defense of our key cities and bases, have been almost entirely supplanted by the weapons of a new era, the Nike Ajax and Hercules guided missiles. This is the culmination of the conversion to an all-missile system which began in December 1953, when the first Nike guided missile unit of ARADCOM, the 36th AAA Battalion, moved into its defense positions.

A new film—"The Pentomic Army"—which explains the origin, structure, weapons and future of the Pentomic Army—is now available at Signal Corps central and major film exchanges. Highly recommended by those who have seen it, the film stresses recent developments in firepower, mobility, and communications and gives detailed information on the reorganization of divisions and the newly developed missile commands.

Dr. Paul A. Siple, who, as a nineteen-year-old Eagle Scout, was the youngest member of Admiral Richard E. Byrd's first Antarctic expedition (1928-30) and an Army scientist for many years, recently received the Department of the Army Decoration for Exceptional Civilian Service. Secretary Wilber M. Brucker presented the award in recognition of Dr. Siple's recent work as scientific leader of the South Pole Scientific Station. On assignment from the Army's Office of the Chief of Research and Development, Dr. Siple, a world-recognized authority on the South Pole region, who has lived in the Antarctic, off and on, for over four years, supervised the collection of vital scientific information and directed the planning for the support and operation of all the U. S. Antarctic scientific stations.

THE ARMY H-23D . . .

HELICOPTER WITH *TOMORROW BUILT IN*

Design of the basic H-23 helicopter was largely governed by a doctrine of *ruggedness.* It has produced a dependable helicopter, with a record of safety unequalled in its class.

Now, in the H-23D, a completely new 1000-hour+ drive system is introduced, seen as a major break-through in lower operating costs. A full-time 250 horsepower is available and, significantly, without "redline" restrictions warning of jeopardized service life. Thus, *ruggedness* has also afforded *growth potential.*

In the H-23D, growth potential assumes a new importance. Its existing components are *designed* to accept even greater power increases for the future's most challenging performance demands. Now, more than ever, the Army H-23 is an investment in *tomorrow.*

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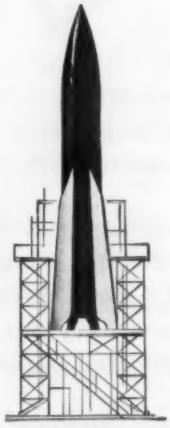

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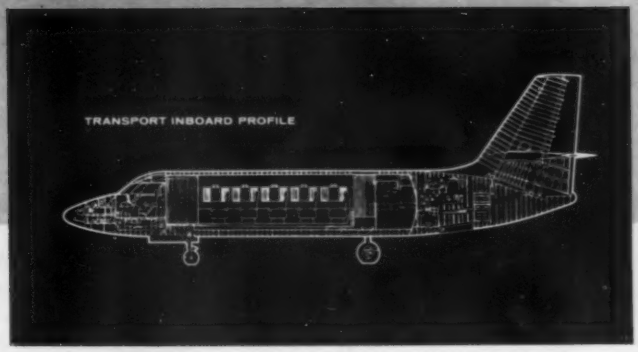
The ban placed on All-Army Championship sport events doesn't include area command championship competitions. In the continental United States these competitions will be held within the geographical limits of each of the six army areas. Each area command will conduct the competitions, which will include all units, activities and installations. Overseas, all sports activity above installation level will be the responsibility of the respective command.

The Sixth Army area's eight military districts will be merged into two U. S. Army Corps (Reserve) as part of the consolidation of the 49 military districts of the U. S. into 14 corps. The reorganization, planned by USCONARC, will improve command supervision and support of the Army Reserve. The corps established in the Sixth Army area are: XV Corps, headquarters at Presidio of San Francisco, taking in California, Nevada, and Arizona; and X Corps, headquarters at Fort Lawton, Wash., comprised of Montana, Idaho, Utah, Oregon and Washington.

The number of ROTC officers ordered to two years of active duty will be reduced during the second half of fiscal year 1958 from the originally scheduled 8,525 to 6,825. The 1,700 ROTC graduates thus affected will instead get six months of active duty training. Resulting from recent DOD manpower reduction directives, the cuts will be made without regard to whether the graduate took a General Military Science or a Branch Material course.

The Army's second nuclear power plant will be built at Fort Greely, Alaska. Modeled after the prototype plant in operation at Fort Belvoir since April 1957, it will provide both electricity and heat for the post and will erase the logistical problem of supplying conventional fuel in that remote area. Congress has authorized a total expenditure of $6,675,000 for the project.

The Army has awarded Chrysler Corp. missile contracts totalling more than $51 million. Thirty million of it is for 1958 purchases of the Jupiter missile and of long lead time components and ground support equipment for the 1500-mile IRBM. The balance of approximately $21,800,000 is for continuing 1958 purchases of the Redstone missile.



Now flying—the new multi-mission Lockheed JETSTAR

—the answer to the urgent need for a jet utility trainer-transport.

Designed for a variety of Jet Age military missions, the Lockheed JETSTAR is a utility jet transport that flies 500-550 mph, at altitudes up to 45,000 feet for distances of 1,800 statute miles or more.

Amazingly quiet (due to aft fuselage mounting of engine jet pods) the new JETSTAR will be powered with two Wright TJ37 engines—or with four General Electric J85's or Fairchild J83's.

The JETSTAR carries a full complement of radio and navigation gear and is fully pressurized and air conditioned.

Like all Lockheed planes, the new JETSTAR is easy to maintain and economical to operate. And it has the inherent stamina to insure optimum utilization and long life—qualities that are more important in military aircraft today than ever before.

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FRONT AND CENTER

MILLION-MAN ARMY

During the question-and-answer period following his talk at the National Press Club on 19 December 1957, General Taylor was asked:

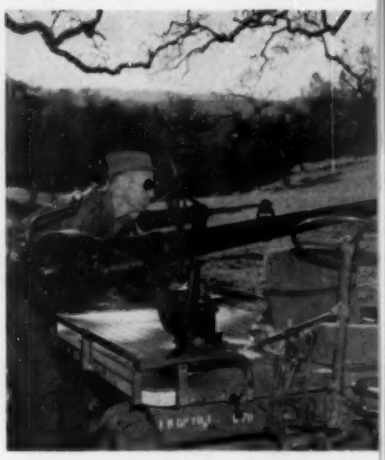
QUESTION: Do you really need a million men in your Army?

ANSWER: For my money we do.

In his written replies to questions put by Senator Symington during the Senate Preparedness Subcommittee hearings, General Taylor in partial answer to a question about the effects on the Army of the reductions in its Fiscal Year 1958 budget, wrote:

"In terms of structure, instead of a million-man Army with 17 divisions, the force which we had hoped to support [in Fiscal 1958], the Army will end this fiscal year with a strength of 900,000 and 15 divisions."

The Fiscal Year 1959 Army budget *(see page 17)* provides for an Army of 870,000 and fourteen divisions.



At Hunter Liggett Military Reservation, Calif., the character and face of tomorrow's Army are determined as different combinations of men, weapons and equipment undergo scientific field testing. Here a member of the Experimental Troops of the Combat Development Experimentation Center is shown sighting his mechanical-mule-mounted 106mm recoilless rifle

DOD'S VERSION OF CORDINER PAY PLAN

The Department of Defense's revision of the Cordiner service compensation program has been introduced as a House bill by Representative Vinson. The major differences between the Cordiner program and the DOD proposal:

Conversion Plan. DOD proposes a "phase-in period" for officers and warrant officers under which all of the monetary benefits of the program will not be immediately available to officers. Enlisted men eligible for increased pay will receive full increases on the day the program becomes effective. During the first three years

(Continued on page 14)

CHIEF AND FIELD COMMANDERS OF U. S. ARMY AIR DEFENSE COMMAND

Lt. Gen. Charles E. Hart
C. G., *USARADCOM*
Ent AFB, Colo.

Brig. Gen. Legare K. Tarrant
C. G., *1st Region*
Ft. Totten, NY

Maj. Gen. Parmer W. Edwards
C. G. *2d Region*
Ft. Meade, Md.

Col. Leslie J. Staub
C. O., *4th Region*
Grandview, Mo.

Maj. Gen. Eugene F. Cardwell
C. G., *5th Region*
Ft. Sheridan. Ill.

Maj. Gen. Edward J. McGaw
C. G., *6th Region*
Ft. Baker, Cal.

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1,200 HOURS*

BETWEEN MAJOR OVERHAULS FOR THE

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*EQUAL TO 100,000 MILES..

FOUR TIMES AROUND THE WORLD!

Bell . .world's most experienced helicopter . . leads again! Because of its outstanding and proven service record, the famous Bell Model 47 series** has been approved for 1,200 hours of operation between major overhauls. This is twice the previous interval . . more than any helicopter.

This means a substantial reduction in maintenance hours, plus greater availability and use of the helicopter. It means that one man can do the work of two on minor inspection and repair.

Bell helicopters have passed the test of time with more than 2,500,000 hours of actual flight time in 52 countries of the world. Now, with time between major overhauls doubled, Bell proves once again that it is the undisputed leader in the field of utility helicopters.

**Bell Model 47 series helicopters approved for extended operation include the 47G and 47G-2. Military versions of these models are the Army and Air Force H-13G's and H-13H's and the Navy HTL-6's.

BELL Helicopter CORPORATION

FORT WORTH, TEXAS

officers would receive these cumulative step increases:

Pay Grade	*1st Year*	*2d Year*	*3 Year*
0-10	$200	$300	$400
0-9	100	200	300
0-8	100	200	300
0-7	100	200	300
0-6	75	150	225
0-5 through W-1	50	100	150

Cost-of-living Increase. A six per cent "cost-of-living" increase is provided for all persons with more than two years of service who do not receive an equivalent increase under the new pay scales.

Retired Pay. The DOD proposal does not change the pay of currently retired personnel.

Active-Duty Supplemental Pay. The DOD proposal reduces the monthly supplemental pay proposed by the Cordiner Committee, as follows:

Pay Grade	*Cordiner*	*DOD*
0-10 (four stars)	$300	$ 0
0-9 (three stars)	250	0
0-8 (two stars)	200	50
0-7 (one star)	150	100

Reserve Retention Plan. DOD proposes minimum two-year contracts and would make officers eligible for contracts after two years of commissioned service. Cordiner had proposed a minimum contract of one year and that contracts could be entered into at any time after commissioning. DOD would eliminate the retroactive payments provided by the Cordiner report for those who had served as much as six years under contract. DOD also would eliminate payment of Term Retention Pay to survivors if the officer died while on active duty. While Cordiner would make Term Retention Contracts available to officers of all branches, the DOD proposal eliminates medical, dental and veterinary officers. Mr. Vinson did not introduce this part of the DOD bill as he had previously introduced another bill covering reserve retention contracts.

While Congress seems receptive to some kind of service pay increase during this session, there is no certainty that it will accept the basic philosophy behind the Cordiner Report. The proposed change from pay increases through length of service to increases for competency and skill certainly will be debated.

Fourteen-year-old Explorer Scout Richard Neubauer, Niagara Falls, N. Y., diligently fires away with a borrowed caliber .30 carbine on the Fort Niagara rifle range. Coaching him is 2d Lt. Ralph W. Standbrook, a platoon leader in the 44th AAA Nike Guided Missile Battalion, while John Auman, an Explorer Scout executive, looks on. One hundred scouts joined in the firing as part of a joint Scout-Army program to promote firearms safety

Pictured leaving Baltimore's Friendship International Airport last November are SFC and Mrs. Troy Hendrick and their daughter Peggy, 5. SFC Hendrick was a member of the advance party for the 2d Armored Cavalry Regiment's Gyroscope move to Germany to relieve the 3d Armored Cavalry Regiment. The balance of the regiment, 3057 officers, men and their families, will leave Ft. George G. Meade this month and sail from the port of Baltimore on two surface ships.

GENERAL OFFICER SHIFTS

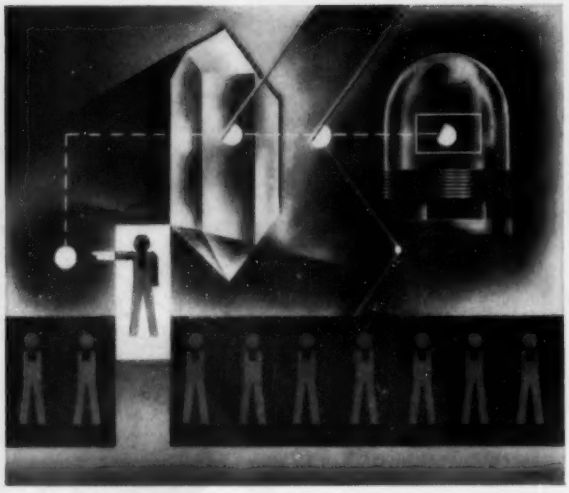
Maj. Gen. CHARLES D. W. CANHAM to USA Military District, Missouri . . . Maj. Gen. HUGH P. HARRIS to USCONARC . . . Maj. Gen. MARTIN J. MORIN to 9th Infantry Division . . . Maj. Gen. CLARK L. RUFFNER to Fifth U. S. Army . . . Maj. Gen. THOMAS L. SHERBURNE, JR., to USAREUR . . . Maj. Gen. THOMAS J. H. TRAPNELL to Eighth U. S. Army. . . . Brig. Gen. MORRIS O. EDWARDS to Alaskan Command . . . Brig. Gen. CHARLES J. TIMMES to ACRB.

COMPONENT, PRICELESS, AIR FORCE . . . an Air Force pilot is an investment in time and money which must be protected. He is an irreplaceable link in the chain of defense upon which our nation's security rests. But to the United States Air Force a pilot is more than a set of dog tags. He's your wing man . . . your buddy in the next bunk . . . a priceless member of your team. He deserves, and gets, all the protection the United States Air Force can provide. One new way will be with Kaman H-43 crash rescue helicopters . . . on the alert anytime . . . anywhere.

THE KAMAN AIRCRAFT CORPORATION

BLOOMFIELD, CONNECTICUT

MISSILE COMPONENTS Bulova's infra-red seeker cell—the Sidewinder's eye — locks this missile on target; Bulova fuzing systems do the rest. Powder-driven gyros, timers, safety-and-arming systems and other electronic and electro-mechanical devices, designed and made by Bulova, play vital roles in the Dart, Talos, Sparrow... in all, 18 key missiles.



AUTOMATION Bulova R&D designed mechanized plant and equipment for Signal Corps goal of 10,000 perfect quartz crystals per 8 hour shift —with 1/10th the manpower. From systems analysis through equipment development, Bulova engineers devise industrial and military facilities for automatic production of electronic components and ordnance items.

Bulova precision helps to solve today's most challenging problems

Time, mass, length... the age-old concepts man relies on as he enters the Age of Space.

Time alone is unique. Its accurate measurement demands the highest order of precision in the design and manufacture of electro-mechanical devices.

Bulova, leader in measurement of time, has become master of the very combination of abilities that holds practical solutions to the growing challenges of miniaturization.

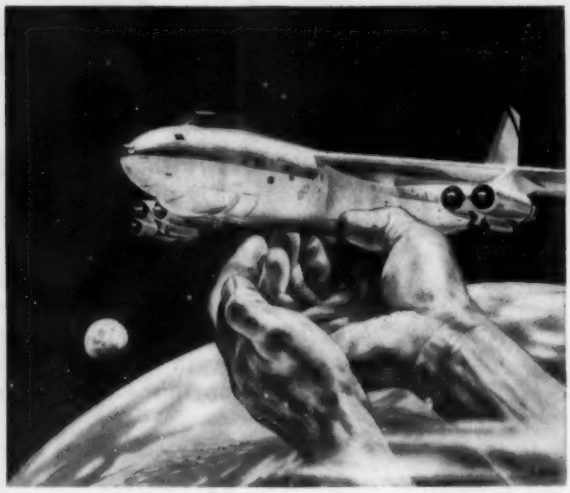
Miniaturized systems and components by Bulova are now working for our nation's defense and automated industry. The same vision and experience that developed them are available to assist you... from concept to reliable mass production.

For further information, write Department G.I.S.-1.

BULOVA
watch company

BULOVA RESEARCH AND DEVELOPMENT LABORATORIES, INC.
BULOVA PARK • JACKSON HEIGHTS • NEW YORK

PRECISION MANUFACTURING Bulova-built servo muscles steer our nation's first ballistic guided missile — the Corporal. When critical tolerances demanded uncompromising accuracy, Bulova solved tooling and assembly problems on a crash basis. Bulova experience and facilities are unexcelled where precision, reliability and capacity are vital.



AIRCRAFT INSTRUMENTS Bulova's new Servo Altimeter combines unsurpassed sensitivity and accuracy with direct-reading tape presentation. Special pressure devices created by Bulova include transducers for air data computers... remote pressure sensors for weather stations and airports... climb and dive indicators... and autopilot altitude controls.

WORDS *VERSUS* DEEDS

THE ARMY'S 1959 BUDGET

THE Administration's Fiscal Year 1959 budget for the Army is inadequate in terms of the cold war commitments of the Nation and the corresponding missions of the Army. If adopted without substantial increases, it will insure an Army less capable of deterring the Communists from embarking on limited aggression at times and places of their own choosing, or to defeat them should they start a less-than-total war anywhere on the periphery of the free world. It will also reduce the nation's total war capabilities, especially its defensive shield.

The facts of the 1959 Army budget cannot be reconciled with those portions of the President's State of the Union message which asserted a determination to improve the military posture of the nation.

Military Security Budgets: 1957-59—*Army down, Air Force & Navy up*

DEPARTMENT OF DEFENSE—MAJOR NATIONAL SECURITY EXPENDITURES—1957-1959

(In thousands of dollars)

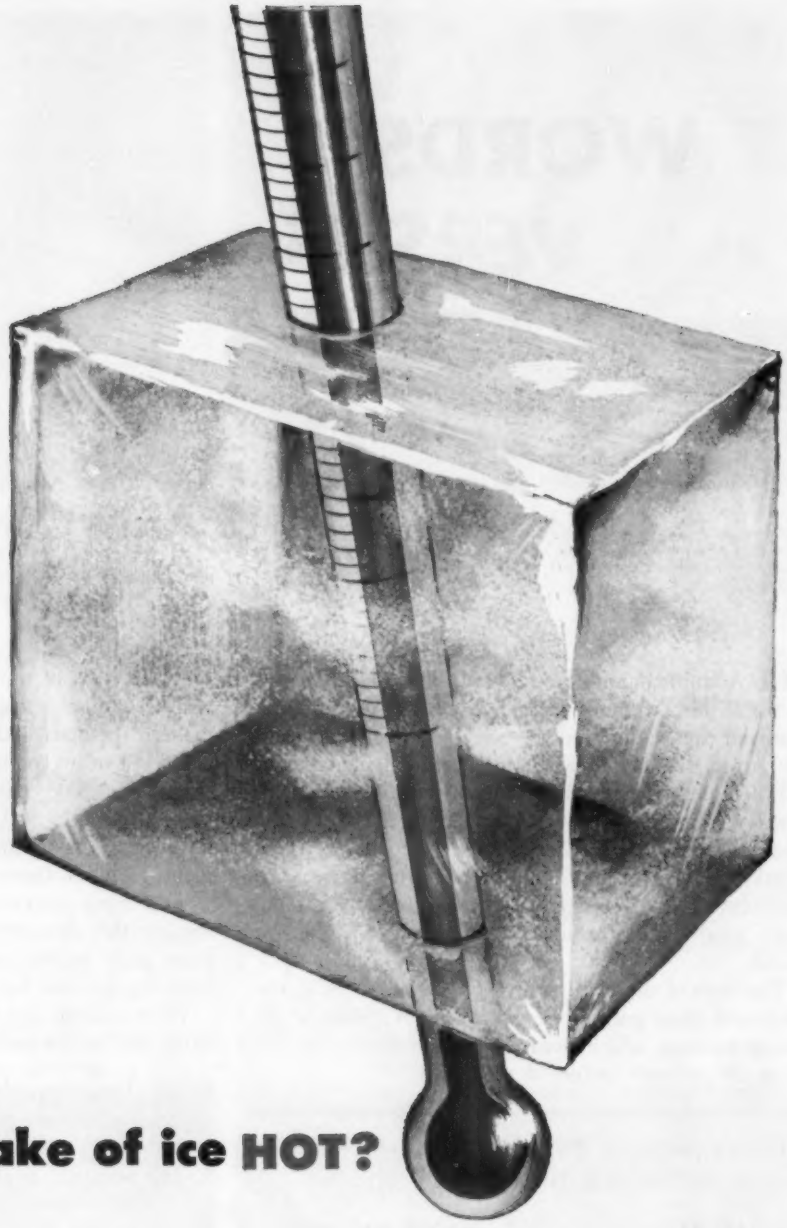
	1957 actual	1958 estimate	1959 estimate
Direction and coordination of defense	13,607	20,924	215,412
Air Force defense	18,362,675	18,441,000	18,736,000
Army defense	9,062,689	9,043,000	8,880,000
Naval defense	10,398,315	10,640,000	10,913,000
Other central defense activities	601,554	716,076	829,588
Proposed civilian personnel pay adjustment			205,000
Total, Department of Defense—Military Functions	38,438,841	38,861,000	39,779,000

"Every part of our military establishment must and will be equipped to do its defensive job with the most modern methods and weapons," the President said at one point in his message. And later he emphasized this by saying: "We must maintain all necessary types of mobile forces to deal with local conflicts, should there be need. This means further improvement in equipment, mobility, tactics and fire power."

The Army portion of the FY 1959 budget does not support this determination. It does not provide for a faster pace in the modernization of "equipment, mobility, tactics and fire power."

What exactly does the FY 1959 budget mean to the Army and to the nation's military posture?

- All things considered, the Army will have some $260 million less for all its needs than it had in FY 1958.
- The strength of the active Army is being reduced by 30,000 officers and men and one active Army division will be inactivated.
- The increase of $46 million for procurement of weapons and equipment will be largely consumed by rising costs plus the high costs of some new essential electronic and missile items. This means that there can be no acceleration of the program to arm the new Pentomic divisions and missile commands with new weapons and more mobile vehicles.
- There is no evidence in the budgets of the Air Force or the Navy of an increase in the amount of strategic airlift the nation will be able to command.
- Research and Development funds provided for the Army in the FY 1959 budget reflect no particular "sense of urgency" at a time when opportunities for truly productive work in this field are vastly increased by recent technological breakthroughs in many areas.



When is a cake of ice HOT?

To the latest infrared sensing devices, *even ice is hot!*

Transparent to a wider range of infrared frequencies than any other IR housing or lens, new Raytheon silicon optics allow even the faint radiations from subzero objects to reach detectors. Formerly, objects had to be 500° F. or hotter for detection at equal ranges. The new silicon optics improve detector performance, permit them to locate targets at greater distances in total darkness!

This latest development typifies creative engineering at Raytheon—constant exploration and experimentation to achieve components and products of utmost efficiency and reliability.

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RAYTHEON MANUFACTURING COMPANY, WALTHAM 54, MASS.

- The budget calls for $30 million less for production of adequate quantities of Army missiles and ammunition.

The only significant addition to the Army's budget is $184 million to begin implementation of the Cordiner program of service compensation as revised by the Department of Defense. This must be approved by Congress *(see page 12)*.

Manpower and Combat Strength

The strength of the active Army has been reduced every year for the past five years and the announced cut in FY 1959 of 30,000 will be the third reduction in a period of two years. If the contemplated reduction is carried out the strength of the active Army on 30 June 1959 will be 870,000 officers and men *(see chart below)*.

This budget is disappointing to Americans who had thought that the Nation was now fully aware of the dangers which face it and was prepared to reestablish its military posture. The Soviet Sputniks, their ICBM, the conclusions of the report of the Rockefeller Brothers study, the information made available from the report of the Gaither Committee, the studies and reports of other recognized scholars and authorities—all these had created a public awareness of the need to improve the nation's defenses materially and especially the nation's ability to respond to the challenge of less than all-out war without starting a global conflict. But the FY 1959 budget fails to reflect this new concern. As presented it will not provide the vital forces that are necessary and we will continue to struggle along with a military posture that is insufficient and will not support our national objectives adequately. This means that if the nation is called upon to fulfill some of its many commitments (as in Korea in 1950), American lives and American resources may be wasted in too little too late responses.

General Taylor has stated that "for my money" the active Army should be at least one million strong. It was brought out in testimony before the Johnson Preparedness Committee in December 1957 that there was a need for twenty-eight active Army divisions.

But in FY 1959 the Army will have to cut one of its present divisions, leaving it with but fourteen—half the recommended number. Eight of these are required for overseas deployment (and this is a minimum commitment). Of the six remaining in the United States, three will be training divisions for all practical purposes. This means that at best only three combat ready divisions will be available to the strategic reserve. The tables on this page show the planned organization of the active combat units of the Army at the end of FY 1959, that is 30 June 1959.

Combat units without adequate logistical and administrative back-up cannot survive long on the battlefield. So we must consider not only the serious reduction in our combat units but the effects of the continuing downward spiral of manpower on our ability to sustain the combat soldier in action.

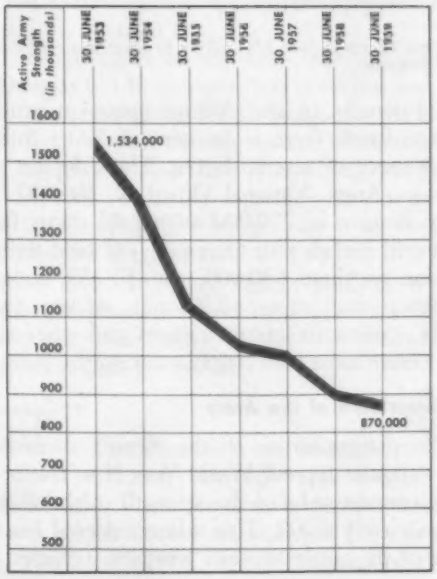
The most definitive means of accomplishing this is to measure it in terms of what is known in the military as the "slice." A "world-wide slice" is the relationship of the total army manpower all over the world to the number of divisions which the Army has. The resultant figures show not only the number of men required to man the divisions themselves but the numbers required for combat, logistical, training and ad-

VANISHING DETERRENT—*How Active Army strength has declined since 1953*

COMBAT UNITS OF THE ACTIVE ARMY

Type of units	FY 1958 planned 30 June 58	FY 1958 estimate[1] 30 June 58	FY 1959 planned 30 June 59
Combat divisions	17	15	14
Armored Combat Command	0	0	1
Brigades[2]	0	0	2
Separate battle groups and regiments	9	12	9[3]
Surface-to-surface missile battalions	51	38	43
Surface-to-air missile battalions	65[4]	65	73

[1]Following reductions ordered by the Department of Defense in the summer and fall of 1957.
[2]Kind of brigade unspecified.
[3]6 regiments; 3 battle groups.
[4]Plus a number of antiaircraft artillery gun battalions.



ministrative support to sustain these divisions in action.

The "slice" is determined by dividing the number of divisions which the army has into the total army manpower. During World War II, the "slice" reached as high as 78,000 men per division. By the outbreak of the Korean war, the "slice" had fallen to 59 thousand men, resulting in understrength units (insufficient vehicles and equipment) and inadequate logistical support to sustain the fighting. The tragic results of this emasculation of forces were reflected in the casualties suffered by our forces in Korea, 96.5 per cent of which were borne by soldiers.

With a million-man army of fifteen divisions which we had at the beginning of FY 58, the "slice" was 70 thousand, a ratio which experienced military planners consider to be an adequate norm under the present state of technology. Under the FY 59 budget however, the slice will be only 62 thousand. This gives the army the choice of reverting to the dangerous practice of understrength units or the elimination of units essential to combat operations.

An Army of fourteen divisions is inadequate to the tremendous world-wide commitments which our nation had made. Moreover, the reductions in manpower force us to take the unwarranted risk of being unable to sustain these divisions if conflict should come.

Army Reserves and National Guard

At the same time the emasculation of our active army forces continues, funds for support of the Army National Guard and Army Reserve are also being curtailed. Here is how they compare:

	Direct Obligations	
	FY 58	FY 59
Reserve Personnel, Army	$203,200,000	$185,000,000*
Army National Guard	326,700,000	298,000,000*
Military Construction Army Reserve Forces	27,000,000	35,000,000

*These figures include $20 million to cover increased cost of Cordiner program.

Additionally in the Army's operations and maintenance funds there is an item of $90.4 million for maintenance of reserve forces. These figures contemplate an Army National Guard of 360,000, and an Army Reserve of 270,000 on a paid status for forty-eight drill periods plus fifteen days of field training. In addition to these 630,000, the FY 59 budget contemplates that some additional seventy thousand ROTC cadets, six-month trainees and other reservists will receive some paid training during the year.

Modernization of the Army

The reorganization of the Army's divisions from the triangular type of World War II to the new Pentomic concept reduced the strength of the division by approximately 6,000. This was considered feasible because of the vastly superior weapons, vehicles, planes, communications and other new items which these divisions would have.

The Army has proceeded with the reorganization of the divisions but budgetary limitations have made it impossible to supply all the weapons and equipment, and the mobility on which the whole premise of the reorganization concept was based.

In a moment of optimism, General Taylor addressed himself to this problem on 18 November 1957 as follows: "The fact that we have units in being waiting impatiently for improved weapons and vehicles will be a strong incentive to the agencies responsible for meeting the requirements." Less than a month later, General Taylor gave more specific testimony before the Johnson Sub-Committee. Senator Symington asked General Taylor to explain the effect on the Army's structure and modernization program of the $12 billion budget which General Taylor thought was required for FY 1958 budget and the money the Army actually got. General Taylor replied as follows: "My estimate of $12 billion to be required in FY 1958 was given in 1956 as an order of magnitude figure. Actually, the Army submitted to the Department of Defense a program of $11.5 billion for FY 1958. The comparable figure made available by Congress to the Army in FY 1958 was $9.5 billion. This difference between the sums requested and sums received *required a substantial curtailment in the Army's structure and modernization program*" (italics supplied). During the same hearings General Taylor made the needs even more specific: "I have estimated that we need over $400 million for new equipment for our Pentomic divisions."

In the fiscal 1959 budget the Army's direct obligations for procurement of equipment including missiles have been increased by $46 million over fiscal 1958. Former Secretary of Defense Wilson estimated that, because of increased costs in the same items from year to year, appropriations had to be increased five per cent annually to buy the same amount of goods. Some budgeteers feel that three per cent is a more realistic figure. In any event a sizable amount of this additional money will be eaten up by rising costs. Additionally, the high cost of some of the newer electronic

Missile Progress: *In the "year of the missile" the Army will spend less on them*

PROCUREMENT & PRODUCTION OF MISSILES AND RELATED ITEMS—1957-59

	1957 actual	1958 estimate	1959 estimate
Army[1]	$ 945,591,861	788,200,000	758,200,000
Navy[2]	203,327,280	264,621,000	270,000,000
Marine Corps[3]	16,989,605	65,402,000	50,000,000
Air Force[4]	1,508,802,060	1,486,222,000	1,728,100,000

[1] "Ammunition and missiles"
[2] "Missiles, drones & related equipment"
[3] "Guided missiles & equipment"
[4] "Missiles"

Composite Picture: *Only the Army Reserve will have an increase in strength in 1959*

STRENGTH OF THE ACTIVE ARMY

AVERAGE NUMBER

	1957 actual	1958 estimate	1959 estimate
Officers	116,263	106,400	102,200
Enlisted	884,617	830,100	773,800
Military Academy cadets	2,349	2,400	2,400
Total	1,003,229	938,900	878,400

YEAR-END NUMBER

	1957 actual	1958 estimate	1959 estimate
Officers	110,599	105,000	100,100
Enlisted	884,729	793,100	768,000
Military Academy cadets	1,751	1,900	1,900
Total	997,079	900,000	870,000

STRENGTH OF THE ARMY NATIONAL GUARD

(In paid status)

End of year:	1957 actual	1958 planned	1959 proposed
Officers	36,795	36,000	35,000
Enlisted	385,383	364,000	325,000
Total	422,178	400,000	360,000
Average:			
Officers	35,934	36,400	35,500
Enlisted	377,537	370,400	341,960
Total	413,471	406,800	377,460

STRENGTH OF THE ARMY RESERVE

(In paid status)

End of year:	1957 actual	1958 planned	1959 proposed
Officers	84,200	82,000	85,000
Enlisted	226,000	231,000	254,000
Total	310,200	313,000	339,000
Average:			
Officers	78,000	82,000	84,900
Enlisted	190,000	234,000	257,000
Total	268,000	316,000	341,000

and missile items will further preclude acceleration of the Army's modernization program. Without the new rifles, the new machine guns, the new armored personnel carriers, the helicopters and planes, tactical surface-to-surface and surface-to-air missiles, trucks and other vehicles will be terribly handicapped on the modern battlefield. This is hard to understand after the tragic experience in Korea.

Strategic Airlift

In his State of the Union Message in 1954, President Eisenhower defined our requirements for strategic mobility as follows: "Our armed forces must regain maximum mobility of action. Our strategic reserves must be centrally placed and readily deployable to meet sudden aggression against ourselves and our allies."

In January of 1957 Major General Earle G. Wheeler, Director of Plans, Army DCSOPS, described the situation as follows: "The Army estimates that it could reasonably count on having enough strategic airlift to move rapidly the combat echelon of one division to a threatened area, but this is not sufficient to cope with the local aggression situation which may well arise from time to time."

A more current professional assessment of the situation came from General Gavin when he testified before the Johnson subcommittee in December 1957. Senator Symington questioned General Gavin on the availability of airlift. Here is a brief excerpt from the transcript of that testimony:

SENATOR SYMINGTON—And the testimony that you gave, page 845 in 1956, was that the Army would have great difficulty in handling a single division. Of course, we were talking then of lifting and properly supporting a division overseas. Has there been any change in that position?

GENERAL GAVIN—Well, there certainly has been some, but not a significant change. No large aircraft have come into the inventory in any number.

SENATOR SYMINGTON—Actually you can't lift and properly support a single division overseas, can you?

GENERAL GAVIN—I would say that it would be marginal and perhaps this should be looked into more carefully.

SENATOR SYMINGTON—With all the problems that are around in the Middle East and the Far East and Germany, doesn't that mean that in effect the Army is not mobile, the Army of the United States is not a mobile army, if you are talking about modern movement?

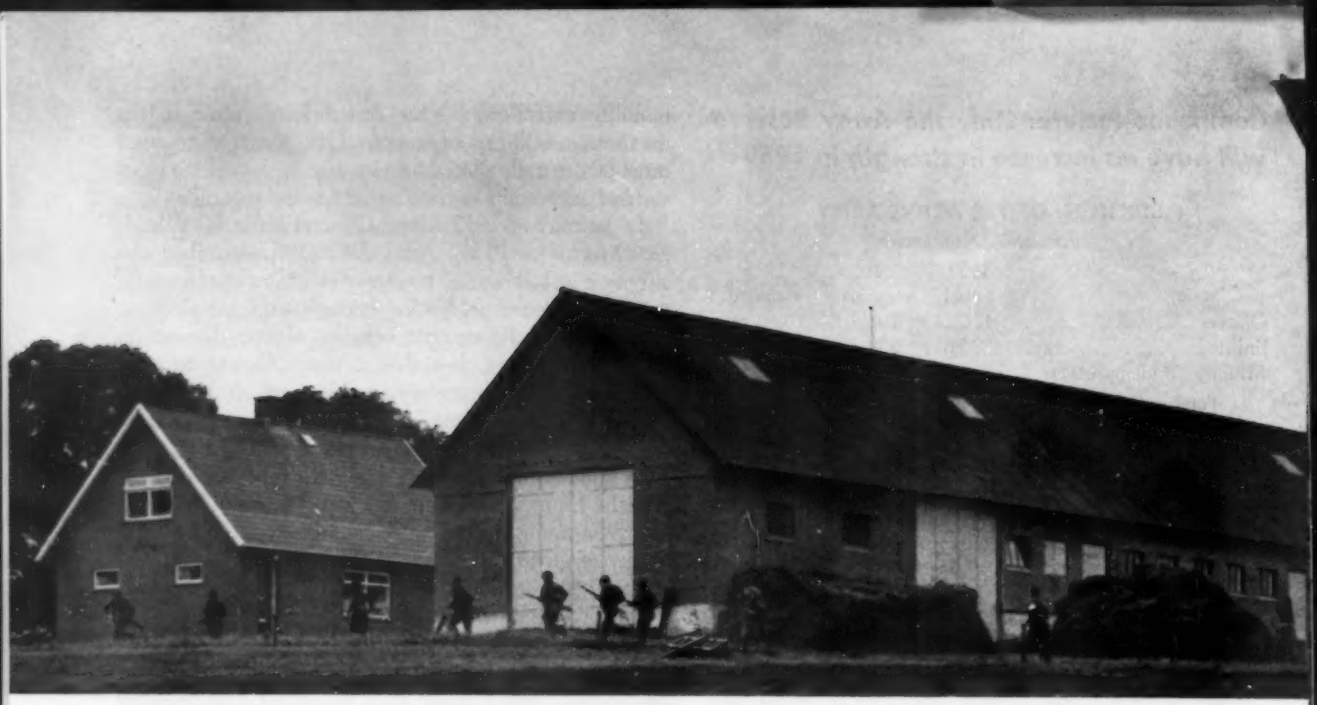
GENERAL GAVIN—Yes, it is far from being as mobile as it should be, far from it.

The testimony goes on to show that the contract for the Douglas C-132 transport was cancelled and that there was no money in the FY 58 budget for the C-133 transport. Both Senator Symington and General Gavin went on to make it clear that if anything was being done to improve our airlift capability they were unaware of it. The FY 1959 budget shows no sense of urgency over this deficiency.

Incredible as it may seem, we are confronted with the paradoxical situation of reducing our Army forces and at the same time failing to offset our diminishing capability with strategic mobility.

Air Defense

The Army has an important role in air defense not only of the Continental United States but for our troops in the field. There are three important problems in this area which should be receiving high priority funding. The fiscal 1959 *(Continued on P. 54)*



The Angels Flex Pentomic

In tests under the Pentomic structure, the 11th Airborne Division in Germany found the new organization's battle groups have staying power and flexibility

BRIGADIER GENERAL DAVID W. GRAY

ON 1 March 1957 the 11th Airborne Division reorganized as a pentomic division under the ROTAD concept (Reorganization Of The Airborne Division), giving the Army two such airborne divisions—the 11th and the 101st. However, the experiences of these two divisions since reorganization have been considerably different. The 101st, because of its location in the Army Strategic Reserve and its participation in the Jumplight tests, concentrated on the airborne role of the new organization. Conversely, by nature of its location in Germany, the 11th Airborne had to concentrate on developing its new capabilities to fight as part of a corps in missions normally assigned other types of divisions.

As part of this program the division's infantry elements—its airborne battle groups—engaged in a period of intensive training culminating in battle group Army Training Tests (ATT) administered during August 1957 by VII Corps at the Hohenfels training area. I propose to show the lessons learned from these ATT and indicate where further study is needed.

ROTAD organization

The ROTAD division has these principal components:

¶ Five battle groups, each consisting of five infantry companies, a headquarters company, and a heavy-mortar (105mm) battery.

¶ A division artillery with five 105mm batteries, a

Wings

headquarters battery, and an Honest John battery.

- An engineer battalion of two companies of four platoons each.
- A support group made up of the divisional logistical elements (maintenance battalion, medical company, parachute-supply company, supply and transportation company, and headquarters and service company).
- A signal battalion with one operations company and one installation company.
- A command and control battalion consisting of a headquarters company, an administration company, an aviation company, and a reconnaissance troop.

To enable the division to carry out its assigned missions in Germany, it has been reinforced by these attachments: a tank battalion, an armored infantry battalion, a truck battalion, an ambulance company, an ordnance company, and an airborne CIC detachment.

The Army Training Tests for the battle groups at Hohenfels lasted four days and followed in general the usual phase sequence for such tests: assembly area, daylight delay, night withdrawal, defense, and attack. Each battle group had attached for the test a transportation truck company, an engineer platoon, a tank company (minus one platoon), and an area communications platoon from the signal battalion. Available to the battle groups at all times but not attached was an average of ten H-34 helicopters from either the division's recon troop or from the 8th Transportation Battalion.

The battle groups were supported by appropriate elements from the support group and by necessary elements from division headquarters—a force of approximately sixty officers and 340 enlisted men. This division element played the role of division in the problem, transmitting orders to the battle group, receiving reports, and providing logistical support. In general, all battle groups found the training texts prepared for ROTAD units to be basically sound. However, in all preliminary training prior to the ATT they were encouraged to vary their tactics and techniques and to experiment as much as they could. The results of this experimentation will be touched on later.

Rifle Squad

The ROTAD rifle squad of eleven men (squad leader and two five-man fire teams, each with a fire-team leader, an automatic rifleman and his assistant, and two riflemen) is a radical departure from the former nine-man squad—and a definite improvement. Although Training Text 57-7-10 (Infantry Company, Airborne Battle Group), indicates that the squad leader is still supposed to control directly his entire unit and the fire-team leaders are only supposed to assist, actually it does not work out that way. In the rough terrain of Hohen-

Honest John, Sunday punch of the Pentomic airborne division

With few exceptions, the smallest unit of movement is the fire team

fels the squad leader could usually control his squad only through his fire-team leaders. Thus, without intent, an additional link in the chain of command has been created. This new link becomes even more important if elements of the weapons squad and of the weapons platoon are attached to a rifle squad. In such cases the squad leader may be responsible for as many as sixteen to twenty men, and he certainly needs help in controlling them. Although all battle groups had trained their squads either in movement by individuals, by split teams, or by fire teams, it was found during the ATT that, with few exceptions, the smallest unit of movement was the fire team, with one team covering the advance of its twin.

Brigadier General David W. Gray became Assistant Division Commander of the 11th Airborne Division in March 1957, coming to the assignment from the Pentagon where he had been Chief of Operations of ODCSOPS. A member of the USMA class of 1933, he was commissioned in the Infantry. During the Second World War he served at Army Ground Forces headquarters and in the G3 section of General Walter Krueger's Sixth Army. In Korea he was operations officer of Eighth Army, commanded the 27th Infantry, and was G3 of X Corps. He graduated from the Army War College in 1952.

Rifle Platoon

The rifle platoon consists of three rifle squads and a weapons squad. The weapons squad has two light machine guns and two 3.5-inch rocket launchers. In general, the tactics of the rifle platoon have not changed; but its squads, being larger now, are therefore harder to control. This difficulty should have been offset by adding a PRC-6 radio net within the platoon. It was not entirely offset because in addition to fighting his unit, the squad leader must move and monitor his own radio, particularly in the attack. However, in general, addition of the radio at squad level now makes it less necessary for the platoon leader to have sight and voice contact with his squads; so the platoon in many situations of defense and delay as well as of attack may be handled with greater versatility. A radio more dependable than the PRC-6 is definitely needed.

Rifle Company

The new airborne rifle company contains four rifle platoons and a weapons platoon. The weapons platoon has two 81mm mortars and two jeep-mounted 106mm recoilless rifles. As would be expected, this larger company can occupy more terrain in the defense and can seize larger objectives in the attack. It also follows that more time is required to commit this larger company to combat than was necessary for the old company, particularly if the commander is to properly use his 81mm mortars and his 106mm recoilless rifles. The new company has gained a distinct *(Continued on P. 56)*

BEAT NAVY

HO! *for competition;* HO! *for duplication*

Brigadier General Frank W. Moorman

ALTHOUGH I am not an admirer of the fish-tail motif and I think our automobiles are swollen too fat the fact remains that the American automobile for power, looks, comfort and dependability is unmatched anywhere in the world and is exactly the car most of today's America wants. Going down the line of consumer goods, television, dishwashers, hi-fi components, do-it-yourself items and golf clubs there is nothing that I know of that is not exactly what the consumer wants or nearly so. Sometimes the goods get out ahead of the demand.

All of them were produced under a system of free competition by men who, at least during business hours, are free of any motivation except selfish gain, which can be defined as a desire to get ahead in the world, make more money and be a bigger shot in the community. The trickery of automobile manufacturers is well known. They hire the best men in the business, hoard their talents, keep secret their ideas and the rest of the industry can fall flat on its face and the whole country, too, so long as car manufacturer A comes out ahead.

This system has made our country great. It has produced the finest passenger automobile known to man at a price that he can pay. Yet we're told it will not work with rockets or other hardware.

Periodically the papers say the services are wildly competing with one another in the scientific field. I find this greatly reassuring. If I know that in the Pentagon there is an ambitious young Army colonel and a frantic young Air Force colonel both furiously trying to develop the same idea first for the greater glory of their promotion prospects, it seems to me we are in good hands. It was a similar motive that brought us the self-starter, the pneumatic tire, shatter-proof windshields and the automatic gear shift.

So I say, ho, for wild competition among the services! Another thing I say, ho, for is duplication. Ho, for duplication!

On the nation's highways I see Fords, Chevrolets, Plymouths and Ramblers all nearly duplicates, all designed to accomplish nearly the same job, all out on the road, under test, being compared, weighed and balanced and each and every one carrying a man's reputation, a reputation which will be mercilessly torn to shreds if he comes in second instead of first. Good old duplication.

THE modern missile field is by nature a crack-pot field. Half the time those missile fellows do not know where they are going when they start out and when they end up they do not know where they are at. What I would like to see around here is more duplication. If two crack-pots have the same crack-pot idea and there are two reputations ready to go into dust if the thing fails, I feel better. If there are two other services each ready to explode in derisive laughter every time a missile goes, pouf, instead of, bam, there would be less careless laughter during the count down. Duplication is just another word for verification; elsewhere it is called the double check.

Has anyone ever thought how blessed the country is to have wild competition in the Pentagon? The Pentagon is a bureaucracy of the most unwieldy sort. It is so constructed internally that by just getting slightly out of balance it could slow to a dead stop and no one would notice it for years. It is a wonder that it goes at all but to have it go hard, fast, overcoming lethargy, stamping out indifference, fighting out ahead, striving to win, is a miracle. There's no other word for it.

I understand it to be a miracle no one wants. I gather it is all to stop and one morning the Secretary of Defense will arrive at his office, summon an aide and demand, "What is all that quiet out there?"

And I gather the aide will say, "The wild competition, sir, I had it stopped."

And then he will ask, "But how do we assign roles and missions?"

And the aide will say, "Deliberately, in an orderly manner, and on a rational basis."

After having fired that aide I think the Secretary will try to start up the wild competition again and I wish him luck because he may need luck to work a miracle for the second time.

Brigadier General Frank W. Moorman wrote "What the Jest Was Worth" was in our May 1957 issue.

We need "shock courses" that will instill confidence through realistic demonstration rather than "confidence courses" that generate confidence at the expense of realism

Broken-Back Battle

To prepare for nuclear war we ought to start our tactical problems on the thirtieth day of a campaign when two-thirds of a battle group are casualties, communications are disrupted, weapons and vehicles destroyed. In short we ought to practice fighting under conditions that will be normal on the atomic battlefield

LIEUTENANT COLONEL ROBERT B. RIGG

Illustrated by the author

THE rending impact sheared off the turrets of twenty-six tanks, shredded the bodies of the commanders and loaders and tore off the heads and shoulders of gunners whose foreheads had been resting against the soft rubber foam of telescopic-sight headrests. The drivers survived in a sense, but as they had been buttoned up and driving with eyes glued to periscopes they were permanently blinded in the microsecond after the blast. They were strong but pitiful men when a few of their voices came over the radio waves a few minutes after the shock wave had passed. They did not know that the turrets and crews of their tanks were gone and that their own hull radios were all that could transmit. However, they knew, from the blast effect, that they were very close to ground zero of an atomic strike—and quickly sensed the need to move out of an area that was obviously projecting a high degree of radiation.

You commanded that battalion that had lost a company and a half. You were an able first lieutenant substituting for dead and blinded field grade officers and captains. You watched the violent mushroom cloud writhe in its boiling serpentine fashion and recognized the immediate need for decisions, orders, and directions. But before you could completely bring fighting order out of confusion and chaos you were vomiting, and your loader was likewise sick at your feet. So at zero plus twelve minutes your half-reorganized command passed to a sergeant who recognized your illness. His firm voice and able skill directed the battalion's scattered elements into firm defensive action and helped block an enemy attempt at exploitation. He lived to be thrice decorated four days later—only to be buried on the fifth day, half bald, at the age of twenty-three, without knowing that the fifty-odd tanks he had kept in action were to go down in history as having saved an American division and given it time to counterattack.

Farther back in the early morning haze that shifted over that wide battlefield were infantrymen who recalled that first atomic blast—and those which followed. Even though distant from the luckless tankers and the forward infantrymen, many of whom were vaporized, these troops who saw the initial fireballs recalled the confusion of the scene they witnessed nearby as they were buffeted by the blast like puppets picked up by a drunken master. Then the silent aftermath wherein some soldiers felt of their own bodies with slow hands to establish their self-identity, stunned by the knowledge that suddenly they had become sightless.

These blinded infantrymen had no idea of the effect they had on the seeing soldiers when they realized the sightless men wanted to fight, but did not know in which directon to shoot. It was the blind who somehow inspired—and frightened—the others, because some of the unseeing, in panic, shock, and hatred of the enemy, began to fire their weapons with ferocious abandon. To them there was nothing else to do. Their emotions found outlet in promiscuous gunfire, but lacking all sense of direction their fire began to wound and kill their seeing comrades, who had to quickly awake from their shock and disarm the sightless—or duck out of the way. The blinded radio operators retained a sense of mental balance, but some of them became upset when damaged sets began to fail or could not be tuned to reach adjacent units, some of which by now were annihilated.

On the outermost fringes *(Continued on P. 44)*

Lieutenant Colonel Robert B. Rigg, *Armor,* is a familiar name to *Army* readers. This is his twelfth article published in this magazine since September 1950. Colonel Rigg has been an observer with the Soviet and Chinese Red armies, and has served with armor units. He is presently on duty in the Pentagon. He has published two books: *Red China's Fighting Hordes* and *Realistic Combat Training.*

THE MONTH'S READING

Not By Starts and Spurts

SEN. CLIFFORD P. CASE
Address, San Francisco, Calif.
12 October 1957

There are worse things than not being first. Far worse would be to forget, as we have at times come dangerously close to forgetting, that maintenance of our security requires a sustained, consistent effort for as long as we can presently see into the future. Moreover, that effort must be based on the best possible appraisal of our defense requirements. They have to come first. Budgetary considerations are necessarily secondary. We cannot maintain an adequate program on a piecemeal basis, carried on in starts and spurts, at one time forcing drastic reductions and then reversing the field in a moment of panic.

'The Instrument Would Be the Army'

G. F. HUDSON
"Russia and the West"
The Congress for Cultural Freedom at
St. Anthony's College, Oxford University
24-29 June 1957

There is no good reason to believe that in a war in which both sides were well equipped with nuclear and thermo-nuclear weapons the issue would be decided simply by strategic bombardment. However vast the devastation that might be inflicted by such means, the decision would be reached by the capacity to destroy the enemy's armed forces and to seize and control his territory. The instrument of battle would be the army, no longer composed of masses of infantry, but of fast-moving and widely dispersed armored and mechanized units supported by tactical atomic weapons and tactical air forces. With such armies depending for their supplies entirely on tracked vehicles and air transport, the power of the overland offensive becomes greater than ever before. Tactical atomic weapons can be used defensively also, but if the covering armoured troops are insufficient, they can quickly be overrun; it has always been recognized in military theory that an army which relies on artillery and has not enough infantry merely has its guns captured, and the same principle holds good if tanks are substituted for infantry and Corporals for howitzers. There is every prospect therefore that a future war will still be won or lost by the army in the field, while the strategic bombing, though far more terrible, will have essentially the same function as in the last war. But it is quite likely that the most feared form of strategic bombing, the attack on the enemy's homeland with hydrogen bombs, may not occur at all. It is clearly to the interest of the belligerent who is stronger on the ground to avoid the mutual carnage of hydrogen warfare, since he can be confident of winning without it; the losing side, on the other hand, may well shrink from invoking it—or may be prevented by popular panic from doing so—if the enemy declares that he will not use it first. It is very well to pin one's faith in the deterrent power of the hydrogen bomb, but if the other side does in fact take the risk, then the deterrent as such has failed, and the deterrent begins to work the other way, for the decision to use it must at once bring retaliation in kind. Psychologically the theory of the nuclear deterrent has never been adequately thought out, and this is in no way surprising, for it is essentially a piece of humbug designed to cover up the fact that the Western nations are unwilling to make the effort needed to provide themselves with adequate military defence.

The greatest danger of war in the near future lies in the great military superiority which the NATO powers have allowed Russia to obtain and keep in Central Europe. There is a standing temptation to Russia to make use of it in a crisis to overrun the residue of the continent and throw the Americans back across the Atlantic. But there is no reason as regards total manpower and resources why the NATO nations should not be able to maintain military forces sufficient to engage the Russians on the Elbe on equal terms. That they cannot do so, and are reduced to talking about their armies in Germany as a "tripwire," is because they are unwilling to make the sacrifices required to meet the Soviet challenge. Therefore they take refuge in the nuclear deterrent, and deceive themselves with the idea that it will be enough to avert the possibility of war; thus their leaders can provide defence on the cheap, can abolish conscription, and need not lose a single bye-election through having to bring unpleasant facts to the notice of the electorate. As for General Norstad, who cares about the opinion of NATO's supreme commander?

Limited Nuclear War Fought Humanely

EDWARD TELLER
"Alternatives for Security"
Foreign Affairs
January 1958

There are good reasons to believe that a limited nuclear war can be fought in a humane way—if any aspect of war can be called humane.

In a limited conflict world opinion will be a factor of considerable weight. For this reason as well as for reasons of good military planning it will be best to concentrate on the enemy's fighting power. To spare non-

combatants will be in the interest of both sides. If we develop clean nuclear weapons we can eliminate the danger of a poisonous cloud deposited by unpredictable winds. If at the same time the Russians use weapons with a heavy fallout they will lose supporters. They may choose to be callous—but in that case they will have to pay a price.

In World War II cities were subjected to heavy bombardment. There was a military reason for this. The cities were important as producers of weapons and as centers of supply lines. A limited war of the future will be fought with small and highly mobile units of great firepower. Such warfare is made possible by flexible atomic weapons, by easily delivered rockets, by the ubiquitous and readily available air-transports; and by the excellence of these means alone can we be of real and prompt assistance to other free countries. If we continue to plan for the slowly moving conventional warfare, we cannot arrive in time to stop piecemeal aggression on the periphery of the Communist empire.

In a highly mobile nuclear war, bombardment of cities will be pointless, unless hostilities are prolonged. Having ceased to be hubs of transportation of men and matériel, cities will become of much smaller importance in over-all strategy. There will be little military reason to destroy them.

Nuclear weapons will certainly cause a considerable amount of unintended damage. But the enormous lumbering armies of the conventional wars did not spare the civilian population either. It is not clear that the devastating firepower of a mobile war of the future will leave more ruins in its wake than did the clumsy fighting machines of the past. The main role of nuclear weapons will be to prevent the use of massed military power. Therefore, the will of the local population is going to become a more important factor in a future limited war. Guerrilla activities in many places during recent years, as well as the destruction of tanks by poorly armed and ill-trained youngsters, have shown what determined people can do in a fight on their home grounds. A highly mobile force armed with modern weapons might conquer the world if not opposed by a similar force. But in a war where modern weapons are available on each side the decision may well depend on the local population. Therefore, the mobile army of the future should be considered as the guardian of freedom.

Regimental Character

MAJOR ABNER R. SMALL
The Road to Richmond
University of California Press, 1957

Time brought experience, and experience stimulated a desire to please the colonel and establish a reputation for the regiment. Men and officers soon performed all disagreeable camp duties. Orders which at first were called hard knots in a long string of red tape, and were denounced as arbitrary, were cheerfully complied with as for the best interests of the regiment. I myself used to call it part of a "damned military despotism," and was about as unreconciled to orders and restraint as any other members of the command, until a shadow of insubordination brought in [the Colonel's] authority.

Regimental character will always be determined by the character of the officers. Lack of confidence in officers brings disaster. Men are not overburdened with regard for rank as rank; they measure the individual, not the grade of his commission, and lucky is the officer seeking honor and promotion if he meets the specifications and fulfills the demands made upon his courage and ability.

Think of What We Can Do

MAJ. GEN. J. F. C. FULLER
Grant and Lee
Indiana University Press, 1957

[Grant's] sense of proportion never deserted him. It was at this time, when Lee counterattacked him on the evening of May 6, that in great excitement a general officer said to him [as reported by Horace Porter]: " 'General Grant, this is a crisis that cannot be looked upon too seriously. I know Lee's methods well by past experience; he will throw his whole army between us and the Rapidan, and cut us off completely from our communications.' The General rose to his feet, took his cigar out of his mouth, turned to the officer, and replied, with a degree of animation which he seldom manifested: 'Oh, I am heartily tired of hearing about what Lee is going to do. Some of you always seem to think he is suddenly going to turn a double somersault, and land in our rear and on both of our flanks at the same time. Go back to your command, and try to think what we are going to do ourselves, instead of what Lee is going to do.' "

Spiritual and Temporal Authority

MAJOR ABNER R. SMALL
The Road to Richmond
University of California Press, 1957

Our chaplain, the Reverend George Bullen, baptized in the chill autumnal waters of the Potomac two men of our regiment, who had confessed their faith before they had left home. A few days later, Chaplain Bullen paid his respects to Colonel Coulter, [CO, 11th Pennsylvania Infantry] at brigade headquarters; and, declining as superfluous the customary social appetizer of old Bourbon, he told the colonel all about the baptisms. He dwelt upon the probable good effects, both godly and military; the men, he felt sure, would be the more amenable to orders and discipline; he had not omitted, he said, to remind them that they should render unto Caesar. Now it happened that Colonel Coulter, though commanding the brigade, was jealously attentive to the growing reputation of his regiment. He interrupted suddenly:

"How many men did you say you dipped, Chaplain?"

"I baptized two, Colonel."

"Orderly!" The colonel's tone was peremptory. "Tell my adjutant to detail a sergeant to take a man from each company down to the river and baptize them in the Methodist persuasion. I can't allow any damned Baptist to supplant my authority, either spiritual or temporal."

Tests of new logistical support techniques and capabilities and the training of troops in executing them must match the testing and training of Pentomic combat forces. Therein lies the significance of New Offshore Discharge Exercises

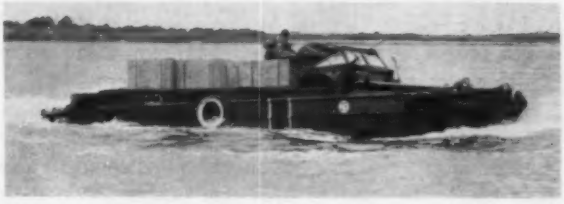
NODEX 17

BRIGADIER GENERAL WILLIAM WHIPPLE

A bright contestant on a quiz program might readily identify Quiberon Bay, off Brittany, as the place where in 1778 John Paul Jones's *Ranger* exchanged salutes with French warships—the first formal recognition of our new colors by a foreign power. In 1944 this area again became important—this time to our military planners—when an acute shortage of ports threatened to throttle logistical support of Allied forces landed in Normandy. A hastily devised plan, rather inappropriately called CHASTITY, was to land 8,000 tons

Brigadier General William Whipple commands the U. S. Army Communications Zone Base Section at Poitiers, France. A 1930 graduate of the Military Academy (Corps of Engineers), during World War II he was with SOS, ETOUSA, and the G4 Division of SHAEF, and was later District Engineer at Walla Walla, Washington. He graduated from the Industrial College of the Armed Forces in 1950.

Undeveloped sites on the southwestern coast of France were the scenes of the exercises



of cargo daily in a little-used inlet off the Bay. The presence of German naval bases in Brittany precluded the attempt, leaving unsettled the question of whether so many ships could have been successfully moored and unloaded in the channel's tidal currents that run up to eight knots.

Modern organization of U. S. Army lines of communications through southwestern France in support of combat forces in Europe resulted in landings in the Quiberon area in October 1957. To test modern concepts of dispersion during nuclear attacks, an over-the-beach landing exercise was held, during which 30,000 tons of supplies and equipment, including 8,000 tons of ammunition, were brought ashore in a seventeen-day period, besides five hundred troop replacements.

NODEX 17 (New Offshore Discharge Exercise)—the largest peacetime logistical landing exercise ever attemped—was the last of a series of that name which provided over-the-beach training for Communications Zone troops. It also helped develop new techniques in cargo handling, tested new equipment, and furnished practical information on potential wartime landing sites. Since peacetime affords only limited opportunities for adequate training in logistical support, these exercises are unusually significant.

Perhaps the most difficult phases of peacetime logistical training are determining and improving techniques and capabilities. During combat, logistics needs no doctrinal emphasis, for often commanders and planners alike are dismayed to find how completely their desires and plans are affected by limitations in logistical feasibility. In wartime the entire national economy is drawn into military logistics in all its ramifications, and a new crop of logisticians develops. On the other hand, peacetime training must first develop and preserve maximum combat potentiality. Suitable adjustments in thinking and planning for logistical support, by no means nominal, must match Pentomic *(Continued on P. 47)*

The Stifling Embrace of Administrative Staffs

Only decentralization, forcefully defined and stubbornly imposed, can free commanders to be responsible for what they do or fail to do

COLONEL FRANK KOWALSKI

SOME months ago during a visit to the Command Management School, General W. G. Wyman, Commanding General, Continental Army Command, said, "Over the years we have accumulated a network of organizations which never decrease but always increase, producing staff control within our structure rather than command control."

I don't believe General Wyman meant our tactical staffs; I think he referred to those ever-expanding offices which direct and control administrative operations.

In a tactical unit, particularly the combat division, the primary functions of the staff are to assist the commander in coordinating the efforts of his command, to plan operations, and to help line outfits to do their assigned tasks. Tactical command channels are short, clearly defined, and strongly established. Relationship between division headquarters and subordinate commander, is direct and personal. The staff is small and its officers are junior to commanders of major organic units. The special staff and the technical services are more concerned with supporting and servicing the line than with supervising, coordinating and controlling line operations.

In our administrative echelons, these conditions are reversed. The Pentagon and major commands are more clearly bureaucracies than military headquarters. Command channels are long, diffused and impersonal. Power and authority flow not from superior commander to subordinate commander, but from headquarters to headquarters. Staff officers are more concerned with inspecting, supervising, coordinating and controlling lower elements than they are with assisting the doers in accomplishing their tasks.

In this impersonal bureaucratic climate a most curious practice has evolved in which a staff officer exercises authority without responsibility. This practice has been legalized in part by policies and regulations which assign review and approval authority to the staff; in part, it exists under the false and contradictory dogma that while a staff officer cannot command, he orders in his commander's name.

This strange arrangement stems from the fact, or belief, that *commanding* is a job of such magnitude that it cannot be performed by one person, and must be shared by a staff. The result is that the commander, who is totally responsible for accomplishing an assigned mission, has under him a committee of staff commanders. In principle, only he can command, but in practice that function is performed by a staff under cover of its power to inspect, supervise, coordinate and control. All this has been rationalized by an amazing mental process which denies that a staff officer violates principles of command so long as he specifies "by command of" his superior, even though the order or decision may be issued at his own discretion, to someone not responsible to him. The whole procedure acquires a kind of mystic logic that assumes the staff officer is only expressing the policy or will of his commander.

The *mystique* of the staff officer

This ambiguity arose through a deterioration in our understanding of what must be done when a person assigns a part or parts of his total job to others. A brief look at the process of delegation may be helpful in pointing up our problem.

Human organizations come into existence when a man envisions a goal he desires to reach which requires human power greater than his own. At this point, he

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Colonel Frank Kowalski, *Infantry,* has been Commandant of the Army Command Management School at Fort Belvoir since it was established late in 1954. Other articles on command management by Colonel Kowalski appeared in the September 1956 and January 1957 issues of this magazine.

analyzes his task, divides it into functions, and assigns functions to others to perform. Through generations of experience, we have found that best results are obtained when responsibility for a function is vested in a person rather than in a group, a board or a committee, and the individual is given authority adequate to carry out his responsibility.

When one man delegates his power to another, something critical happens in the relationship between the leader and the person to whom he has delegated authority. First, the subordinate is obliged to carry out this responsibility and must hold himself accountable for results to his superior. On the other hand, when delegating power to a subordinate, the leader demonstrates one of the greatest virtues of mankind: trust in his fellow man. He must believe his subordinate can and will carry out that responsibility. Our failure to believe this has caused misorganization and has exacted a heavy price in waste and duplication.

This failure is demonstrated when a commander, unable directly to influence or control tasks he has delegated, gathers around him advisors and staffs to oversee those who have been given the job. At the first sign of trouble, instead of determining the cause and providing corrective guidance or adequate assistance to subordinate commanders, he appoints additional members to his staff to help him watch those below. The staff watchers become supervisors and soon are telling the doers how to do their jobs. Our administrative staffs, from Pentagon down to installations, are loaded with watchers, checkers, coordinators, controllers, and all sorts of command helpers.

In these circumstances it is not surprising that in our administrative echelons a staff officer thousands of miles away from the point of action can convince his superior that the commander on the scene doesn't know what he is doing. It happens every day. One would think a more reasonable solution would be for the supervisor who thinks his staff officer is better qualified to carry out a mission than the person to whom he assigned the responsibility, to relieve the latter and assign the former to do the job. But that doesn't happen. The subordinate commander continues to be responsible, while the staff officer in the echelon above him tells him how to do the job.

It is difficult to understand why we tolerate this entrenched practice of exercising authority at staff level without being accountable for results.

In my opinion there are three powers of our administrative staffs which undermine command authority: the power to review and approve; the power to say No; and the power to supervise and control.

Power to review and approve

Two examples will illustrate how we hold back authority from the senior subordinate by delegating the power to review and approve his actions to a member of the staff above him.

The first concerns reports of survey. All installation commanders regard the responsibility for safeguarding government property as a major trust. When acting on a report of survey, they handle each case with judicious scrutiny and devote to it considerable personal time and thought, or else delegate review authority to the post deputy or chief of staff, usually a senior officer.

Regulations prescribe that after action at installation level, reports of survey, under certain conditions, must be forwarded to the army commander for review and final disposition. This seems logical, since the installation commander is accountable to the army commander. The procedure thus amounts to a review of the recommendation of a subordinate commander by his superior.

This seldom happens. In practice, the report of survey is reviewed by a civilian or military staff officer at army headquarters and is returned to the installation approved or disapproved with the magic words "By command of the army commander." The action is made official when it is signed by the army adjutant general or an assistant AG. Usually neither the army commander, nor the deputy army commander, nor the chief of staff, sees the typical report of survey. The helper on the staff makes the necessary review and *command decision*. So despite the fact that at installation level the highest command consideration was given the case, at army level review authority devolves upon a minor member of the staff. For some long-forgotten reason, someone has provided a staff watcher for the army commander to approve or disapprove the actions of his installation commanders.

This is the question that must be answered: Do we believe our installation commanders are trustworthy and capable of making decisions in accordance *with policy*, or is a staff watcher at army headquarters needed to review the installation commander's decisions? It seems reasonable to assume that the Secretary of the Army would take a chance on the installation commander.

Here is the other example of the same kind of staff control.

Current regulations prescribe the conditions under which an ROTC cadet may be discharged for his own convenience or for the convenience of the government. Despite the fact

THE JAWS OF TWEEDLEDEE

Theirs not to make reply,
Theirs not to reason why,
Theirs but to command and die;
Into the valley of negation
  Rode the commanders.

Staffs to right of them,
Staffs to left of them,
Staffs in front of them
  Supervised and undermined;
Stormed at by AG's and clerks,
Boldly they command their works,
Into the jaws of tweedledee,
Into the mouth of tweedledum,
  Rode the commanders.

(We trust the shades of Alfred Lord Tennyson and the brave men of Balaclava will forgive this attempt to pay homage of a sort to soldiers whose mission demands a somewhat different kind of courage. The Editors.)

that regulations spell out these conditions in considerable detail, discharge is authorized only with the approval of the army commander.

In practice, this enjoiner is fictitious. It is a rare situation indeed where an army commander personally approves the discharge of an ROTC cadet. What usually happens is this. The PMST, after careful study, forwards a letter to the army commander requesting authority to discharge the cadet. At army headquarters hundreds of such letters are referred for review to a staff officer. This officer, sitting in an ivory tower far removed from the ROTC unit and not accountable for the consequences of his actions, has the authority to make a decision which is binding on the local commander (the PMST)—this despite the fact that the PMST and not the staff officer is accountable to the army commander for results. All is legal and proper providing the usual magic words "By command of" appear over the signature of the army adjutant general or an assistant AG.

Here we must ask the same question posed in the previous situation. Do we believe the local commander (the PMST) is trustworthy, capable of making sound decisions in accordance with announced policy; or do we believe we need special staff-commanders at higher headquarters to make wholesale decisions for a commander in the field? Surely full authority to discharge ROTC cadets can logically be delegated to a PMST. If necessary, the policy governing discharges can be redefined and appropriate appeal procedures established. In any case, it is poor organizational procedure to hold the PMST accountable for results at his institution and at the same time give a staff officer at a higher headquarters the authority to review his actions and decisions.

One thing is certain: the practice of providing a large staff to ride herd on commanders in lower echelons is nothing more than a false hope of getting quality through quantity. Similarly, developing rules and regulations to insure that operators make no mistakes is a movement toward standardized mediocrity. Somehow, the Army must come to realize that staff control is no substitute for the ability and initiative of a subordinate commander.

Many similar examples can be found if we examine our regulations and policy directives. This whole wasteful practice could be knocked in the head if the commander and members of his staff at each echelon would ask themselves: "Is it necessary for *this* case to come up to *this* echelon for review, approval, or decision by *me*?" An objective answer would collapse these accepted procedures (and the staff jobs) like a house of cards. But we don't ask the question and if we should, nothing will be done until the Army's management climate is changed.

Power to say No

Probably nothing frustrates a subordinate commander so much as the negative power that a staff officer or a group of staff officers in echelons above him can exercise over an operation. This is a hazard the commander faces every day. The practice is so entrenched and so well protected by the system that only the rash or the most courageous dare to challenge it.

The road to standardized mediocrity is heavily posted with regulations and patrolled by administrative staffs armed with far too much authority

In the usual situation, a local commander finds it desirable to do something new or different. First he determines whether or not he has the authority to do it. If he does not have this authority, he customarily writes his immediate superior, explaining what he wants to do, justifying the proposed action, and recommending how the proposal can be implemented. The correspondence is referred to the staff section having primary interest.

If what is suggested or requested is authorized or prohibited by regulation, circular, or policy, the staff officer handling the matter is relieved because he can return the communication with a form indorsement citing the authority or prohibition. Such an indorsement properly supported by a memorandum for record causes the staff officer little difficulty. But if the request is neither clearly authorized nor clearly prohibited by regulation, circular or policy, he has a problem on his hands.

He can take several actions. A man of strong character will support the subordinate commander and recommend approval of the suggestion. One who plays safe will salve his conscience by bucking the correspondence up to the Pentagon. One who doesn't want to be bothered will return it disapproved.

The last action is the most acceptable because it can be cleared through the staff officer's headquarters without too much difficulty. Under the conditions described, he cannot cite the prohibiting regulation or policy, so he rests his decision on the premise that "there is no authority for the proposed action," or that it might "set a precedent." Usually all he has to do, particularly if the subordinate commander is not a general officer, is to prepare an indorsement to this effect and send it to the AG for dispatch. The magic words are typed or stamped on the correspondence and the subordinate commander's suggestion is as dead as the dodo. The matter may have been handled by a major in the G3 section or by a captain in the AG section, but the decision is as official and binding as though it had been made by the army commander. Does the frustrated subordinate commander know whether the army commander has personally passed on it? He doesn't.

If, on the other hand, the staff officer has the courage

of his convictions, he can support the commander's suggestion and prepare an indorsement authorizing the proposed action. But he would be sticking his neck out. It is not likely that he would dispatch such authority without clearing his action through the maze of staff officers above him—branch chief, section executive officer, and finally, section chief. In the restrictive atmosphere in which our staffs operate today, it is doubtful if anyone in the labyrinth would authorize something not specifically permitted by regulations, circular or policy. Someone in the staff oligarchy will surely find a way to say No.

The kindest thing an action officer can do with a bothersome suggestion is to send it to the Pentagon. There are two ways of doing this. A courageous person can try to process the correspondence for the signature of his commander—usually a formidable task. A much easier procedure is to move the letter up, for that requires only the preparation of an innocuous indorsement like, "For your consideration," and the correspondence goes to the Pentagon over the signature of an assistant AG. We might add that in this method the suggestion has also received the staff officer's kiss of death.

After a proper period of staff study in the Pentagon, the suggestion comes back to army headquarters with the conventional opening paragraph: "Not favorably considered." Once again the magic by-line. On special occasions, the second indorsement might even be signed, "For the Deputy Chief of Staff" by an acting branch chief.

Much of the difficulty stems from the fact that subordinate commanders or their staffs are unwilling to act on their own initiative. Too many ideas, suggestions and requests are sent to higher headquarters for "clearance." In many instances this is the fault of subordinate staffs who are unwilling to make a positive recommendation to their commander, preferring to pass the buck up to the next echelon. It is also the fault of the subordinate commander who habitually leans on higher headquarters. On the other hand, the management climate in the Army today does not encourage the development of commanders and staffs who will act on their own. Too many who have so acted have not been treated kindly.

It is useless to talk about positive thinking and initiative in the Army so long as the staff has the power to say No. Few imaginative suggestions from subordinate commanders can possibly weather the negative climate which exists in our staffs today. It is not that staff officers themselves lack imagination; it is merely that a negative decision is a safe one, and there is little chance that it will be questioned by the subordinate or ever reviewed by a superior. That staff officer is safe who says No.

The policy at some headquarters is that only the commander or his chief of staff has the authority to disapprove. This is a commendable attempt to stimulate a can-do atmosphere, but today's directives and regulations are loaded with so many requirements for clearing actions with superior headquarters that there is just too much correspondence for the chief of staff or commander.

Power to supervise and control

The power to supervise and control subordinate units is a radical departure from the basic concept of a staff's functions. History shows that the staff was created to assist the commander in planning his operations and carrying out some of his administrative duties. As it became necessary for the staff to specialize, subordinate line commanders found it useful and desirable to consult with its various specialists who offered suggestions and advice and generally assisted them in executing their tasks. Gradually, there developed a relationship in which the subordinate leader received his mission and orders from his superior, and advice and assistance from his superior's staff. Strong adherence to the principle of unity of command and the accepted concepts of delegation of authority and responsibility prohibited staff officers from supervising and controlling subordinate line commanders. Today, these principles are generally accepted in civilian enterprise; in business and industry a staff officer is essentially a specialized assistant to his superior and an *advisor* to subordinate line operators. Usually the staff officer of a superior echelon in business offers advice only when he is asked for it; the line operator is not obliged to accept his advice.

In the military, the staff officer has been given command powers under a subterfuge, perhaps, but command powers nonetheless. This concept has created in our operations an intricate maze of centralized controls and wasteful checks and duplications.

Power through a latticework of subterfuge

Undoubtedly, the greatest damage to command authority is done through the fantastic latticework of technical channels that rise in the Pentagon and penetrate to the lowest elements of the military establishment. They are loaded with special instructions, directives and requirements. Through these channels, the technical services impose costly demands upon line operators and, under accepted dogmas, pay lip service to the principles of decentralization and integrity of command. When one watches the heavy flow of traditional control reports that travel up these channels, from installations direct to the technical service office, he wonders who really commands the installations.

By far the most dangerous threat to command authority is growing within the Army Command Management System (ACMS). Despite the fact that this business approach to military management is based on a fundamental philosophy of decentralization, our military staffs, accustomed to supervising subordinate units, are not ready to relinquish their controls. While operators are preoccupied with the troublesome financial and accounting problems that ACMS has generated,

staffs are intensifying their surveillance and demanding more and bulkier reports.

At the installation level, with the introduction of management through programs, program directors (chiefs of the general staff) have, in practice, acquired full powers of command over elements they previously coordinated. The G4, for example, now controls approximately eighty per cent of the installation budget, with complete authority to shift funds from one technical service to another. As a program director, he can favor post ordnance operations at the expense of the quartermaster or some other service activity. He has the power not only to tell a technical service chief how much he will spend, but often directs expenditures. As a general staff officer, he is in the unique position of being able to exercise authority in the name of the commander without responsibility for the consequences of his actions.

The rationalization of nonsense

This situation is fantastic. It is ridiculous to contend that a program director is not a director, but only a staff officer. Yet we go through all kinds of gyrations to rationalize this nonsense. If the Army Command Management System requires program directors, then let us delegate to these directors authority and full responsibility and accountability for executing programs assigned to them. If they are to command, then make them commanders.

At the Continental army and higher echelons, budget execution plans and cost and performance reports have become particularly useful instruments through which enterprising staff officers can exercise "technical supervision . . . of . . . activities of subordinate units." The quotation is from a field service manual and leaves little doubt about the authority of the technical staff to supervise. So now we find that budget execution plans of installations have been "marked up" by technical staff officers in such detail that the post commander has very little latitude in deciding how to use his resources. In this environment, the staff officer never hesitates to insist, through his technical channel, that funds be expended locally in accordance with his determination. Similarly, technical chiefs at army headquarters often behave as though personnel spaces at installations belong to them. These control pressures are applied upon the installation in many ways and their frequency and intensity increase as staff officers become better acquainted with ACMS. It is not improbable that in the Army's management climate today, staffs of senior echelons will discover, under ACMS, even more stifling controls than ever existed before.

I do not mean to imply that controls are no good or should not be exercised by higher echelons. Certainly commanders have the right and obligation to supervise activities under their charge. The objective, however, should be to insure exercise of control through command channels and not through the idiosyncrasies of individual staff officers.

The fullest possible expression of command responsibility and performance can come only when we ruthlessly weed out the bad habits of time and custom

The highest echelons of the Army are taking a critical look at our administrative operations. When he was Vice Chief of Staff, General W. B. Palmer directed that a "Study of the Class I Installation System" be conducted. In his instructions he said: "The Class I Command Management System is predicated on the installation commander being given full authority and responsibility. . . . I feel that at this time there may be unnecessary administrative and technical procedures being used such as duplicate and overlapping inspections of various echelons of command, reports required which are not usable at installation levels, different methods of accounting and funding and performance and cost measurements being made for higher headquarters alone, all of which are imposed on installation commanders. A major objective of the study shall be to delineate clearly the authority and the responsibility of installation commanders, and of the echelons of command above them." This study has been completed. The report will be interesting reading.

A look at our management climate

If the Army Command Management System does no more than to inspire this penetrating study, it will have performed a great service for the Army. But I should like to caution that it must not be inferred that duplication, overlap, and unusable reports are products of the new business approach. All these things, including unnecessary administrative and technical procedures, existed long before ACMS was established.

If we really want "to delineate clearly the authority and the responsibilities of installation commanders and of echelons of command above them," we must dig below the thin layer of procedures recently laid down by the new system. We must investigate our basic organizational structure and our fundamental thinking. Most important, we must examine our management climate, because one thing is certain: the weeds of duplication overlap unusable reports, and unnecessary administrative and technical procedures can thrive only in a suitable climate.

A few months ago, Mr. Chester R. Davis, then an Assistant Secretary of the Army, in a lecture on financial management at the Army Command Management School, said: "We believe that improvement of management effectiveness at the installation level cannot be accomplished without radical changes in our thinking. By this, I mean, we must be willing to give up some of the detailed controls which have traditionally been

exercised vertically throughout the Army organization, from the Department of the Army straight down to the installation. In other words, we must be willing to give authority to the commander commensurate with his responsibility and evaluate his effectiveness primarily in terms of program performance."

I have endeavored to show that our staffs have become so cumbersome that higher administrative echelons resemble bureaucracies rather than military headquarters. There is virtually no chain of command, and only limited personal contact, between commander and commanded. While responsibility is severely fixed in the individual commanders at operating levels, directions and orders from the staffs above rain upon them in a heavy downpour. In this bureaucratic climate, initiative is restricted, unnecessary staff positions are created, and the resulting duplication breeds inefficiency, increased cost of operation, and dissatisfaction.

When an Assistant Secretary of the Army advises us that a "radical change in our thinking" is necessary he is implying a radical change in our way of doing things. If our administrative staffs are causing our difficulties something must be done to recast their roles. This calls for an objective appraisal of our present way of doing things and of our basic thinking.

To begin with, why are staffs so large? We like to answer that by saying that the Army is first a unique enterprise and secondly a very large one. Consequently a large staff and a massive staff organization are necessary. The nature of an army and the size of our army undoubtedly influence our organization, but they are not the basic causes of our elephantiasis.

The magnitude and power of the administrative staff stem from our military belief that a commander needs a committee to help him command. We call it a general staff, and support it with another committee which we call the special staff. Together, they furnish the persons who perform the command function which in principle belongs solely to the commander. If we accept this diagnosis of our ailment, the cure is obvious: we must delegate the power to command to qualified subordinates.

I daresay no one will quarrel with this. It would seem to be axiomatic that if "the commander holds each subordinate commander responsible for all that the subordinate unit does or fails to do," he should delegate the power to command to the subordinate. Unfortunately, in practice our regulations, policies and directives hold back much of the command power. Instead of delegating it to responsible and accountable subordinate commanders, this power is grudgingly reserved and cautiously distributed horizontally among staff members.

And so, although every military person subscribes to the principle of delegating command, in practice the principle is diluted. Accustomed to being closely supervised throughout our careers, we find it difficult to refrain from looking over a subordinate's shoulder. As years pass, the habit becomes ingrained. When we finally reach the higher echelons, we behave in the pattern in which we have developed. We are reluctant to trust local commanders who have to do the tasks. The greater the rank differential between staff and subordinate commander, the more pronounced the reluctance.

Decentralization—forcefully defined

There is only one way of changing this restrictive climate. The highest military authority must announce a clear and positive philosophy of decentralization. Because decentralization means different things to different people, the new philosophy of military management must be forcefully defined. This philosophy should preserve the great contributions of our military past, and at the same time endeavor to achieve the flexibility inherent in small organizations. It should establish these definitions:

¶ The installation (post, depot or arsenal) is the basic element of the nontactical military structure.
¶ Headquarters between installation and Pentagon exist only to make plans and to assist the installation in performing assigned tasks.
¶ The installation commander must have maximum authority to make decisions without reference to higher headquarters.
¶ Authority delegated to an installation commander will not at the same time be retained by a superior commander.
¶ Where review of the decisions of an installation commander is necessary, it will be accomplished personally by his immediate superior. (This will force maximum authority down to the installation commander and will prevent retention of command and review authority by higher echelons.)
¶ All orders, instructions and directions will be habitually issued through the chain of command.
¶ All regulations, policies, and directives will be governed by the principle that authority to make decisions will be placed as near as possible to where the action will occur.
¶ The organization at installation level will be designed solely to provide the most effective structure and greatest amount of efficiency. (The technical services concept has no place at installation level.)
¶ The staff and services in all echelons will have the role of developing plans and rendering assistance and advice to the commander and line elements.

If the Army accepts this philosophy, with its theme of decentralization, it can face the Interplanetary Era not only with new scientific weapons systems and advanced tactical forces, but with a progressive, dynamic management structure. In this permissive climate, we shall be able to examine and appraise dispassionately new ideas and ways of doing things. Vested interests, long established procedures, restrictive regulations and many jobs will have to go. This will require critical self-analysis.

Minority Report on Command Duty

LIEUTENANT COLONEL ALFRED P. HOBRECHT

Troop duty shows what a man's made of, so let's quit wailing about its burdens and accept the challenge command offers

AFTER rereading the best in the latest stream of articles on what's wrong with the Army, I feel that since World War II we have been overdoing the business of constructive self-criticism. The motives that impel the criticism have been sincere, but I question the methods used to get the public's attention. Usually, only general officers in top places can really take active steps to cure the ills pointed out by us critics. Boiled down, the theme of these articles, however disguised, suggests strongly that the leadership of the Army, from the Chief of Staff down to corps command, is inept. But who really believes that this is so?

I may be presumptous in swimming against the current, but I feel that sixteen years' experience, including troop duty in artillery, armor and infantry, mostly at company level, qualifies me to make a minority report on command of troops.

Is it universally true that there is considerable reluctance on the part of commanders to go to the next higher level and argue to the point of decision? So far as I am concerned, no. Certainly during my service I encountered people who were not of the type I would "fight to serve with," and with whom it was a waste of time and temper to discuss anything, including the weather. But there were many more who gave subordinates a full and fair hearing, adopted their good recommendations, and explained why those turned down could not be accepted.

An instance which stands out vividly occurred in Korea during the early phases of moving our administrative camp from the Yangu to the Chorwon valley in January 1955. The weather was severe, and the plan adopted called for moving our regiment, in battalion increments, into an existing cantonment area several miles from the selected camp sites. The idea was to construct a permanent camp by working out of the existing shelters. My battalion was to follow another when sufficient complete housing permitted vacating the temporary camp. Arguments that this would needlessly drag out the move, would involve considerably more work, and was too complicated, availed nothing. My request to allow the battalion to shuttle, a company every three days, directly into the selected camp sites was turned down as needlessly exposing it to the weather.

I was allowed to "discuss" far past the point of decision that my plan would be faster, would involve less work, and in the long run less exposure. Going ahead with the directed plan, and considerably perturbed because of "discussing" so strongly with a superior I held in such high esteem, imagine my feelings upon receiving over a poor telephone connection this message from my executive, almost a hundred miles away: "The regimental commander just left, and said to tell you: 'Go ahead with your plan; and go with my blessings.'" That decision, arrived at not in the heat of combat but in an everyday problem in command, still stands for me as a prime example of a commander being big enough, that once convinced a subordinate should be permitted to try his own method, did so wholeheartedly and with sincere best wishes for success. Our plan worked.

Leadership in small units

It has been said that the majority of the good officers are filtered out at the top, thus depriving our troops of competent commanders. In February 1955, when our regiment was losing strength fast, we spent three weeks in close association with a Marine battalion we were to relieve in the Imjin sector. The Marine battalion commander made this unsolicited estimate of the caliber of the Army officers he saw at close range: "You have splendid officers, especially company commanders. I'd like to have that group of officers." Where did we get them? Normal replacements. Not one was begged or stolen from another unit. The only officer whose assignment I had had anything to say about was the battalion executive. We had three different execs, all reservists, and all fine, capable captains. Company commanders were usually in the ratio of three reserve to two regular. The reservists usually were more experienced by virtue of somewhat longer service; but those commanders, with the varying personalities to be expected of divergent backgrounds and experience, had one common trait: they put forth maximum effort without bellyaching or excuses. The other battalion commanders were fully qualified, and to the best of my knowledge there was no throat-cutting among us, though there was considerable competition. I refuse to believe there are *no* good officers at troop level.

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My last troop duty was under two of the finest gentlemen (and commanders) I have ever served with or near. They encouraged initiative in subordinates and allowed them full opportunity to do their jobs. (Since signing certificates seems to have become such a major problem, I can recall only two in our regiment in thirteen months—both required at *theater*.) Another outstanding trait in each commander deserves comment: that of giving the staff and subordinate commanders full credit for their little successes. When the new battle drill, since adopted, was still practiced only locally, we put on a demonstration of its application for the division commander and the field officers of the other regiments. The demonstration, as well as the subsequent training of the regiment in battle drill which followed, was highly successful. Our colonel saw to it that the division commander was aware that

I was allowed to "discuss" far past the point of decision

the regimental staff deserved full credit for conceiving and implementing this training in our regiment. You may say that principles of leadership demanded that this be done. That is true, but the point I make to the doubting Thomases is that there *are* commanders at troop level who know how to apply those principles.

The challenge of troop duty

I have also read that now there is little to recommend command duty except the satisfaction a troop leader feels when he improves the lot of his men. Certainly any commander strives to do this, but is such satisfaction the only reward? Before answering that, I'll point out that the danger in such a feeling is that often it is the reaction of a man who feels everyone else is wrong. He may think he must protect his command from those above him because only he is astute enough to realize his unit's limitations. It has led to feeling sorry for one's self and to currying favor with subordinates by having them believe you stand alone to protect them against the ineptness of higher headquarters. Sometimes it is the course of the "leader" who craves popularity. However, this desire to be popular, to be well liked, to be a good joe, may conflict with the rightful requirement of the next higher commander that you and your outfit perform acceptably at the proper time and place.

I would answer the question, "Has your troop-command duty been worthwhile?" by saying I would welcome it tomorrow. Failures and periods of despair have far outweighed the times when I felt my command was fully capable to do all that could be expected of flesh and blood. The feeling that my own efforts had some influence in maintaining the men of my unit reasonably combat effective is a reward not spurned as worthless. Setbacks that seemed major catastrophes at the time have, in retrospect, become part of the alloy necessary to temper or to break a man. The challenge of troop duty brings out a man's best, and must not be used as an excuse for throwing in the sponge because at times the going gets rough.

Is our Army, at troop level, filled with "sorry" officers and noncommissioned officers? We have some odd-balls, but they are far outnumbered by the really fine men who still want to make a career of the Army. Those men who, day in and day out, give their best to the job at hand can best be described by the words of General MacArthur when he completed his tour as Chief of Staff: "They need no eulogy from me. They are writing their history in the annals of our nation's successes; but when I think of their patience under adversity, and of their loyal and unquestioning devotion, I am filled with an emotion I cannot express. I want them to know I have done my best, that I have kept the soldier's faith."

Solution must come from the top

I realize that many deficiencies exist and that many gripes are valid. Articles in the past have shown how we are attempting to do too much with too little, in too short a time. They have elaborated on some of the reasons why officers are leaving or are seriously contemplating leaving the service. Again I point out that the impetus must come from the top. The only persons who can solve these problems—if they can be solved—and other bad conditions are the key general officers responsible for the state of our Army. Send your well-written exposés of our deficiencies to them direct, by private correspondence. Don't discourage young men from making the Army a career by continually harping, in widely read publications, on the theme that the United States Army is a failure.

I, for one, have had my fill of the "constructive criticism" articles. I feel that we, the so-called hard core, are in grave danger of degenerating into a soft core of hypochondriacs and crybabies.

THE MONTH'S CEREBRATIONS

THE FAILURE OF EX-CORPORAL FLUMP

SFC E. LAFAYETTE DEAL

"Prussianism" has worked wonders in many armies. Willing obedience coupled with intelligent leadership has done equally well. Both have failed dismally when not applied judiciously and an intelligent combination of the two has been successful so long as there was a very definite and consistent line of demarcation to where one began and the other ended.

Of this latter combination Wellington's Peninsular army serves as perhaps the most striking example wherein leadership by example was coupled with severe punitive measures for enforcement.

Our own highly professional Regular Army of bygone days enjoyed considerable success with this formula.

In neither case was "I cannot" or "I will not" tolerated. Coercion was there to be used when necessary. By the nature of things, some men being intelligent and conscientious and other men being the worst of villains, both leadership and force are necessary; for while all men appreciate leadership, the villain is not likely to respect it unless the force is real and readily apparent.

"Sergeant, lock up this man!"

If the sergeant told the private to do something which did not make sense the private did it, not because he was intelligently led, but because the hangman's noose temporarily superseded leadership.

Since all military commanders are not leaders of men in the strictest sense, it naturally follows that their orders do not always readily adapt themselves to "cheerful and willing obedience" by their juniors, particularly Private Smurd who just pulled KP with a terrible hangover and is feeling cross. (Corporal Flump has to deal every day with Private Smurd who frequently catches KP and always has a heavy hangover except when he is drunk.)

The shadow of the cat-o'-nine-tails did not fill the breach at Badajoz with bodies of the storming party but it is equally true that General Washington's personal exposure to danger and his violent appeals to stand and fight had little effect on the undisciplined mob fast putting Harlem Heights behind them.

Today we have compulsion all the way down to Smurd, Elmer J., Pvt-2, at which point the browbeating is continued but the brute force is absent—leadership theoretically being furnished by Corporal Flump who doesn't make the policy. His leadership consists of telling Private Smurd what he, Private Smurd, will do. There it sort of comes to rest.

If, as mentioned, Smurd is not at his best then perhaps he will not wish to do as he is told. *"I been on KP all day and don't feel like marking field equipment tonight."*

When this happens Corporal Flump is showing poor leadership. He is supposed to make Smurd obey somehow. Smurd gets his pass pulled maybe, and that is about it. He still doesn't see any sense in being so fussy about such trivia as marking a handkerchief a quarter of an inch from the upper corner of the military right.

Private Snoddley is a typical young American. Willing, ambitious, and conscientious, he will work pretty hard if properly urged along. He agrees with Smurd about the handkerchief business but it doesn't bother him until he gets restricted over the weekend after an inspection showing such a deficiency on his part. Snoddley spent a hard week in the field, sat up until midnight Friday working on his equipment, and got restricted for his pains. (Smurd's display was twice as bad as Snoddley's but he got the same restriction.)

Snoddley doesn't try the following Friday night. He tells Corporal Flump to go to hell and casts a combat boot at the corporal's head.

The corporal is warned about poor leadership and Snoddley is restricted again. Snoddley does willfully and knowingly proceed to get tanked and revolts, departing his station and duties with only the most vague idea of returning.

There is nothing wrong with the "Prussianism" that made Snoddley revolt. The point is that the Prussians had such additional frills as the cat-o'-nine-tails and the gallows which are not available to Corporal Flump.

Corporal Flump doesn't know enough history to explain this to the battalion commander when he and the Old Man go up to account for an AWOL in Flump's squad, but he can read the future much better than the past and stays up until 0300 hours in the latrine personally shaping up the equipment of Private Smurd, who is drunk as usual.

The arrangement is highly satisfactory to Smurd who never liked to be bothered when drinking and who has far less worries about reduction for inefficiency than poor Flump.

Now please take note. Snoddley is now a "soldier in confinement." He is not a "prisoner" because that sounds bad and might injure his sensibilities. Three weeks ago, when he was knocking himself out in the line company, he was "that eightball Snoddley who marked his handkerchief wrong and doesn't deserve a pass." But not now. Abusive language to pris-uh-oh!—"soldiers in confinement" is frowned on.

Snoddley doesn't get passes in the stockade but then with inspection fever going on he didn't get many in the company either. Inspections in the stockade are tough but at least there isn't the disadvantage of having to stay up all night on guard and then hurry back to the company for full field inspection as does PFC John Willinghorse who stands shivering in the snow on Post No. 6 outside the barbed wire.

Just as the lack of passes begins to be felt, Snoddley is sprung, for after

all, too many people in pokey would look bad to the inspection team.

Smurd has of course managed to be jugged meanwhile and both lads descend upon Corporal Flump on inspection eve.

The corporal is too busy with ten thousand last-minute things to see that the cardboard in the socks of his returning lambs is of uniform color and texture.

Naturally the inspection team is exceptionally picayunish, for after all the unit has had ninety days' notice to prepare for it. (They also had three regimental field exercises and CONARC testing during the same period.)

Smurd gets by fine by going on sick call but when the inspectors get through with Snoddley, Corporal Flump has sunk to the status of habitual felon in the eyes of the G4 inspector for letting Snoddley turn out so sloppy. (His helmet was marked in spite of change No. 27 which said it would not be marked. Low-quarters shoe laces displayed too, which Corporal Flump had warned him about but had not re-checked.)

Called to account for his criminal negligence Corporal Flump did say to the company commander in the presence of witnesses, "What the hell ya expect for a hunnert-n-twenny a month—General MacArthur?"

The fact that Corporal Flump had been listening to similar comments from enraged privates for the past ninety days, did nothing to cut one day off the six months in pokey awarded Pvt-1 Flump.

Other repercussions resulted from a laundry bag full of empty beer cans that the inspection team found stuffed into the barracks ventilator system. This was subsequently traced to Private Smurd who had to get rid of them before going on sick call and couldn't use the trash can until after inspection.

Master Sergeant Savage was so enraged at this turn of events, which prevented him from getting best barracks in the battalion, that when Smurd returned from sick call he was immediately thereafter rushed to the post hospital in an ambulance and there was nothing fake about his illness this time.

Savage is pending court-martial proceedings for maltreating a young soldier, to wit: by striking him repeatedly about the head and shoulders with a blunt instrument, probably a broken pool cue found near the scene of the assault.

The company commander is in disgrace because of so many incidents in his command.

It could all have been avoided if: (1) An example had instantly been made of Smurd at his first foul-up and he could have spent twelve hours a day drilling at double time behind barbed wire with a forty-pound sandbag on his shoulders. (Post commanders dislike this practice because of possible scandal.) This being impractical, the only thing remaining is: (2) If you can't use force, use common sense. All the picayunish horsecollar attendant to the inspection should have been eliminated.

You can't use force on the leaders when all they can use on the privates is persuasion. And just for kicks, sometime try persuading a private to do something stupid when he is already good and mad. Long ago, privates never got too mad to be scared of consequences.

Last time we saw Flump he was riding on a garbage truck and whistling at girls. He was guarded by PFC Willinghorse who won't get off guard until Sunday. Flump doesn't work on Sunday now that he is a soldier in confinement.

The comments of the inspection team? Obviously the squad leaders weren't doing their jobs.

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WE CAN'T AFFORD SECOND-CLASS OFFICERS

COL. JOHN D. COLE

It is time we took a look at our treatment of the so-called "career reservists" who make up the majority of our active officer corps. How much real career management is done in their behalf? What percentage can expect to reach even the grade of lieutenant colonel before the arrival of mandatory retirement or a Dear John? Do we really give them an opportunity to learn their profession? That I can seriously ask these questions indicates that in many ways we regard our career reservists as second-class officers.

We are justly proud of our Army schools, but for the career reservists the apex of the system is a speeded-up associate course at Leavenworth—and this in a bachelor TDY status. The list of fields where the double standard exists is long. The real wonder is not that there are mediocre officers among them, but that there are so many able ones.

We have made some progress: the coinage of the term "career reservist" lets them know we are aware of the problem. We have instituted indefinite categories and now allow a select few to serve beyond the magical twenty-year limit. There is integrated temporary promotion and a new augmentation program designed to elevate several thousand reservists into the élite minority.

All these measures are good, but not good enough for the long haul. Unless the political prophets are very wrong, the Army for many years to come will be officered largely by non-Regulars. How can we maintain a high-standard corps of officers if we don't offer the reservist a real career?

A good first step could be the broadening of the base of our school system. We can't give all officers ten months of school at each level, but we might give a minimum of five. The important thing is to abolish the double standard and allow all officers to work through the same system according to merit and not according to the digits in his service number. Obviously this will reduce the amount of schooling for the less able regulars, but it

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would go a long way toward recognizing the more efficient reservists.

Such a policy in a few years would do much to overcome some of the current assignment evils. A great difficulty today is the requirement for regular officers *only* in far too many slots. The basis of much if not most of the reluctance to assign reserve officers to varied jobs is their relative lack of military education. If educational opportunities were broadened, much of the difficulty would disappear, and as an ancillary benefit, a few more regulars would filter down to troop assignments.

Some sort of plan should be devised for a continuous integration program at all levels up to, say, major, and up to perhaps forty years of age. Even a small program would provide the all-important recognition and incentive to thousands of officers past the age limit for a competitive tour.

We should formulate a policy and announce now the fate of the thousands of reservists who will complete twenty years during 1961-62. Will we be able to retire so many over such a short period? If we can't, how many will we retain and how shall we choose them? Obviously this poses several imponderables, and any detailed announcement at this time is impossible; but certainly someone is thinking about it. Why not give those to be affected at least the benefit of the thinking?

The American cross-section includes many to whom even an insecure military career appeals, and fortunately we have thousands of excellent reserve officers who are first-class performers despite second-class treatment. I don't mean they fail to see that discrimination exists. They endure it because they like to soldier. The trouble is that there are not enough able ones to go around. We cannot expect a full measure of motivation, efficiency, and performance unless we offer equable security, recognition, and above all, opportunity for education and advancement. So long as career reservists are treated as second-class officers, a large number will act the part, and we can expect to attract and hold only the mediocre in any numbers. Neither can we expect young reservists to serve and develop under mediocre leaders. So long as good lieutenants must serve under poor captains and majors they will continue to leave in large numbers.

The problem is not a simple one and cannot be solved overnight, nor do I claim that the measures I have outlined will do it all. Only stringent command action at every level can weed out the incompetent and the lazy —and I include regulars. We must all realize that in protecting good old Joe from the consequences of his ineptness, we are hurting ourselves. We cannot afford second-class officers, but we will continue to have too many unless we end this discrimination.

Col. John D. Cole, Corps of Engineers *(USMA 1935), after a tour as Chief of Staff, 10th Infantry Division, now commands the 37th Engineer Group (Combat) in Germany.*

WILL TO WIN OR DESIRE FOR SUCCESS?

CAPT. JOHN HINTON, JR.

"Team-play our way to military fitness" has become a national rallying cry; magazine articles echo it, prominent speakers endorse it. I think I represent a substantial minority when I suggest that the unconsidered pushing, on a national scale, of organized athletics as we Americans now know it, poses some very real dangers. Such a program has potential value, but we ought to understand that team sports is only a part of a military fitness program.

First, consider what organized athletics is *not*. The basic proposition is that, nationally, we are lacking in physical conditioning and coordination, and a grasp of team play. It follows that, having improved our younger citizens in these three qualities, we improve the caliber of our soldiers. The advancement of organized athletics—that is, team-play sports as opposed to individual sports or other types of conditioning—as a solution to the problem, is based on the analogy between playing field and battlefield. Like most analogies, this one breaks down because of unconsidered differences between the subjects being compared.

As for physical conditioning, the analogy doesn't hold from team sport to team sport, much less from team sport to combat. He's a unique coach who permits his football squad to participate off-season on the swimming team. General S. L. A. Marshall, in "Speaking of Team Play" [October ARMY], tosses out bicycling our way to fitness, on the ground that it doesn't condition men for moving combat loads in contact with the enemy. By the same token, volleyball doesn't condition men for the backache resulting from pick-and-shovel work—the infantryman's unhappy lot when faced with the need to dig everything from machine guns to 106s into hull defilade in anything from sand to bedrock. The new theories forming in the realm of atomic tactics promise no respite from the soldier's traditional, unenviable mole role: not only will we move farther faster but, apparently, we will dig deeper before and after the move.

The analogy breaks down again on conditioning in the principles of team play because success in athletic teamwork requires a high degree of specialization. Baseball in itself doesn't develop any essential football savvy. I suggest that neither the football player nor the baseball player make particularly good combat teammates without precisely the same *specialized* team training given to the non-athletic members of their units. I am probably not the only man to have seen a mortar squad flub on every requirement after base-point registration during a platoon ATT, because its leader had spent a large chunk of his service on special duty with the regimental football team.

The analogy falls apart on a sport-to-sport basis, before we even reach the sport-to-combat level. Hand a soccer player a lacrosse stick and he'll fall all over himself until he develops a new, *specialized* adeptness. Will the team-sport soccer player be any handier with a bayonet than the individual-sport boxer? General Marshall's premise that the man who grew up sliding into bases will adapt more easily to the use of infantry weapons than the target-shooter, or the kid who grew up swinging a twelve-gauge on canvasbacks coming downwind is, to me, a curious notion.

Let's face it: the alumni of our playing fields are youngsters who have demonstrated natural aptitude for the particular skills and the particular type of teamwork involved in the particular sports in which they excelled. It is not reasonable to suggest that they represent the entire pool from which

we can draw our combat leadership. At best, we can say only that young men with particular aptitudes in these areas may be easier to train in military teamplay than the inept, just as they orbit naturally to their school teams while the inept fill the cheering sections. But I think these same apt youngsters would be easy to train in the intricacies of platoon tactics, whether they had come from ball diamond or duck-infested swamp marshes. And herding everyone into a program of team sports won't put into the inept something they weren't born with.

There is, though, a value to team-sports programs organized with a reasonable perspective. Of course, physical conditioning is important; and properly administered, team sports are one way among many equally good ways to accomplish it without losing the great value of individual sports: the inculcation in the individual of the urge to go for something not quite tangible—sheer love of the game.

Organized athletics as we know it today simply reflects a weakness in our national psychology—the steady replacement of our will to win by the desire for success. The first is purely an individual quality; it is what keeps a man punching even when there is patently no longer a chance for "success." In combat, it is what keeps the rifleman going in what he knows is a lost fight just because he won't have *his* name tagged to something that quit.

The desire for success is a mob quality, postulating that tangible return is the ultimate achievement: take a minimum risk to guarantee minimum return. Some reward is better than none; the product of the group effort, distributed, will compensate for individual errors by members of the group. Intangibles are not part of the standard of values of this psychology of common sense. Loyalty, for example, to a coach who put everything he had into a losing season, is ludicrous under the psychology of success. Regardless of the reasons, whatever they may be, for the losses, he was a poor investment.

Team sports as we play them, beginning in high school, are a product of this psychology. Too many schools are unwilling to risk their chances for gate receipts simply to run a physical program aimed at one hundred percent of enrollment; instead, they guarantee success by substituting an athletics program for a physical program. One university, at least, in the words of a faculty member, has recognized the inconsistencies of the "athletic scholarship" by dropping football.

Army athletics programs, as Lt. Col. George Juskalian points out in "Professional Soldier or Professional Athlete?" [August ARMY], reflect the national pattern: what starts out as a physical conditioning program for soldiers usually ends up as special duty for regimental athletes, to insure successful retention of the division trophy, while the Rodger Youngs go to motor stables.

Hence the danger in failing to recognize team sports for what they are: one good way, along with log-rolling exercises, rifle calisthenics, and programs like those of the Ranger and Airborne schools, for getting people in shape; and probably the best way, from the interest standpoint, of coaxing youngsters to get in shape. But if we must insist that team sports are the best criterion for picking leaders, let's first revise our standards of values, to emphasize sportsmanship above winning, in a universal program. General Marshall mentions having seen Americans so badly shellacked in combat that they should have quit, but didn't, and attributes this to the fact that most of them were playing-field alumni. If team sports had anything to do with it, I suggest that the deciding factor was that for once, at least, before their time of trial, these men had been able to *finish* a lost game because no one had oversold them on athletic victory.

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TRAINING UNITS FOR COLLEGE TOWNS

COLONEL W. B. MEANS

Sometimes we are our own worst enemies. A few months ago topside called a bum signal (at least that's what it seems to me and many others) that will, in time, seriously affect the make-up of USAR because the number of college men taken into the Reserve forces will be reduced.

Here's how it worked. During the 1956-57 school year college students with no prior service could enlist in reserve units, under a program in which six months of active duty for training was not compulsory. This year, every no-prior-service man joining the reserve, except for high-school seniors, must leave for six months of active duty within 120 days of enlistment. The result is that except for those who got in their six months between high school and college we now take no college men into USAR units. (There are minor exceptions.)

We constantly impress upon recruiters that quality must come before quantity, because we all know that our modern, technical army needs high-caliber, high-IQ men. If you say that ROTC will provide all such men we need, I answer that it does not, cannot, and will not. For various reasons, ROTC does not include *all* male students. For example, at Oklahoma University, ROTC is compulsory only for two years; many cadets do not continue into the third and fourth years. In Norman, the college town, nearly sixty per cent of the enlisted men in USAR units are students. One could not find better citizen-soldiers, and they are outstanding at annual unit training. In a couple of years they'll all be gone, and their loss will not be replaced under the present system.

Everyone agrees on the importance of each reservist having six months of active duty for training. Most college students want this training, the usual compelling reason being that prospective employers won't talk business until after the active-duty obligation is completed. There are several solutions. Mine is to defer the six months' training for reservists who are juniors and seniors until they graduate or drop out of college. If the law must be amended to permit this, then let's ask that it be amended.

Some will say that units made up largely of college students cannot be ready for mobilization because most such men will seek and obtain deferment from active duty pending grad-

(Continued on page 66)

BROKEN-BACK BATTLE

(*Continued from P. 27*) of this first nuclear blast, officers of another unit saw their dazed men lie motionless and frightened, staring at the great rising cloud. While physical damage in this unit was almost negligible, it was paralyzed through mental panic induced by sight of the destruction in the valley's panorama. It took an hour of urging, cursing, and coercing to bring men to their fighting senses, to get vehicle drivers out of their foxholes and soldiers loaded into armored carriers. The unit was sluggish in a situation that called for agility. Rumors of catastrophe spread and the fog of defeat clouded inside carriers as this reserve unit rolled flankward to fill a tactical gap.

Elsewhere on the hills above the valley rocketmen stood immobile and unmoving in fear and horror. Militarily they were as useless as the blinded tank drivers they watched whose turretless hulls careened over the battlefield in search of that something that was nothing.

The seventh and eighth fireballs blasted deep in, and while they did not directly take out two higher headquarters, their boiling flames set afire several forests which cremated half the communications vehicles of two headquarters. Escaping vehicles and vans were blocked by raging fires and fallout that drenched escape routes.

We haven't yet measured the impact of the atom on troops who survive a nuclear attack

This was not a one-sided conflict. The enemy also felt the hot flames and overpowering blasts of our nuclear weapons. But amid the chaos some of his armored columns swept forward, and over hundreds of square miles a series of pitched battles developed as the combat zone became a checkerboard of conflicts. The damage had been so extensive that units fought with what men and machines were left, under rather primitive conditions of supply, matériel, and communications.

Prepare to fight with less

It matters not whether such scenes and events will ever happen. But they *could* occur, and such a high order of damage and horror could be normal on the atomic battleground. The question for us is: Are we training our soldiers and units not only to survive the instantaneous shocks, but to operate and fight on grimly slim means should successive tactical strikes vaporize tents, trailers, trucks, weapons and men? While we are approaching such warfare with sound ideas of what we will need to fight with, have we examined how we would finish fighting it *with what we have left?* Do we ever start a tactical problem or maneuvers with half units, one-third the communications, and a fraction of the normal wealth of transportation? It would seem well sometimes to pick up the combat or campaign not on the situation of the first day, but on that of the thirtieth,

and require the maneuver to progress from there.

There is reason for examining our professional consciences and determining if present-day training is sufficiently realistic in terms of shock, horror and loss inherent in a future conflict which employed tactical atomic weapons. What can a battle group do when two-thirds of its men, weapons and vehicles are erased from the earth?

Over the last two decades, maneuvers have grown slowly more realistic, but they are still out of key with the military atom. Our maneuver play is plainly out of date because it does not truly reflect the shuddering, instantaneous impact of nuclear weapons. For example, present-day umpiring is not instantaneous nor is it realistic when imposing effects and losses on units. Awkward and archaic, it is keyed to cannon and muskets and not to missiles and atomics. Furthermore, it is costly in money and manpower and doesn't produce realistic results. Non-participating units are literally drained of officers to provide umpires. It is clear that atomic weapons and tactics have bred the need for so many more umpires that we are cluttering up the maneuver ground to the point of confusion.

What we urgently need is an automatic system of umpiring—one that can realistically implant an atomic or other decision in a split second.

Automatic electronic umpiring

It is possible to institute automatic electronic umpiring. It will require the development and manufacture of new devices easily within the realm of today's scientific art.

One purpose of the new system would be to mark instantaneously casualties in men, tanks and other vehicles (including aircraft). All casualties would be ruled out of action in a split second when the opponent struck a given area with atomic or other high-powered weapons.

To begin with, each soldier would carry a casualty capsule attached to the inside of his helmet or the outside of his breast pocket. This capsule could contain either tear gas, smoke, or an aerosol type of brilliant red spray which when activated would *mark the soldier* and also cause him some discomfort—even nauseate him—so that he would perform his tasks under difficulty. The secret would be that these capsules would house miniature radios fused to be set off on impulses transmitted from electronic devices marking the atomic strike—devices with radio ranges set to cover a given radius.

In addition, tanks, armored personnel carriers, self-propelled guns, and all other ground vehicles would carry casualty signal bombs containing a generous charge of colored smoke that induced nausea. Bombs would be fastened inside vehicles and, upon opposing weapon strike, would be automatically set off by radio impulse, forcing them to halt and forcing drivers or crews to dismount.

To achieve these simulated atomic strikes, small drone aircraft carrying special radios would be sent in orbit over selected ground zeros. At the precise moment of strike the selected radio impulse and frequency would be beamed out to actuate casualty capsules and bombs. Over a given radius all vehicles would blossom with casualty-marking smoke and the infantrymen, engineers, and other troops within weapon radius would find themselves realistically labeled as casualties. By using several frequencies, units farther out from ground zero could be marked by varying percentages of casualties.

Thus, from the rifleman in the battle area to the radioman in a van and the staff at a CP, the impact of an atomic strike would be made more instantaneous and realistic than at present. Aircraft pilots won't be forced to parachute; they will be required simply to respond to given radio signals that set off smoke canisters on wing tips or rotor blades.

It is also possible (and necessary for realism's sake) to create electronic devices to instantly mark vehicle casualties in tank-versus-tank or other conventional-weapon engagements. For example, artillery shells could be adapted to project small radios into the air—VT type fuzes that would parachute down and transmit destruction signals to knock out nearby troops.

Aircraft of the target-drone type would be very useful in marking radioactive areas and fallout during large maneuvers. Carrying colored spray, they could "crop dust" a region by circling and marking it with a highly visible vapor, smoke, or liquid.

Such automatic umpiring is not only necessary; it is imperative because it will increase realism, greatly cut down the number of human umpires needed and speed the maneuver play. It will be an expensive system, but consider the saving in fuel consumption and the wear and tear on hundreds of vehicles, not to mention the valuable pay and time of officers and men concerned under the present out-of-date, clumsy and unrealistic system.

Producing realistic atomic battle

One present-day argument is that once a maneuver or tactical problem starts, all troops concerned must participate in it *all of the time*—or most of the time—in order to take full advantage of the training period. That argument was true in the past, but it is unrealistic today. Units "struck" by atomic weapons should be *out of the problem for its duration;* the other units must be made to bear the *increased* burden of the maneuver campaign or battle. Actually, today when casualties are declared on the maneuver ground the affected soldiers relax, because they consider their day's work is done. That has been going on for years: "Bang! You're dead!" Ours is a new age, and if training is to be realistic it must be frank—and brutal. The soldier or officer participating must be made *to feel* the atomic impact. That means each man must be made to feel not only a sense of shock, but if put out of action he must remain in the exercise and hope to participate in another problem!

Our so-called hard training is not tough enough. For

Lacking all sense of direction, the fire of the blinded hit their fellow soldiers

example the present infiltration course is good realistic training, but in this age it is a freshman, not a graduate, course. What we need, *in addition*, is a standard atomic battleground course—a rugged anvil on which both individuals and units can be hammered and forged into shape and tempered for war in its most gruelling form. Such a nuclear-type test course should be a modern epic in realism, horror and shock. It should be scientifically designed and methodically constructed. Blank cartridges and reduced explosive charges are cap-pistol stuff. In this era we need a six-day type, nuclear training course that will rain and hammer every conceivable condition and horror of atomic warfare on at least two battle groups at a time for that period.

This nuclear battleground should embrace a series of extremely powerful and shocking TNT blasts (simulating a succession of atomic explosions), serious, prearranged actual fires (burning up vehicles, vans, forests, and buildings) resulting from fireballs, amid the chaotic scenery of utter devastation. Men and units should live in and operate over such grim areas for days. Such proving grounds (they should be permanent installations) must be sufficiently grim, devastated and "fought over" that the very entrance into them would be utterly sobering. Every ordeal of man in atomic war should be scientifically and realistically simulated during a tactical action to the point where soldiers would undergo medical self-treatment, be exposed to (harmless) sickness in "contaminated" areas, and be labeled casualties on the spot from their own (or their unit's) mistakes and the given circumstances of atomic combat. This should be a *shock course* to instill confidence, rather than a *confidence course* to generate confidence. Opinion may not be ripe for creating such a grim training battleground, but atomic-age conditions are more than ripe for this needed revolution in training. We must face up to the fact that the terrible impact of nuclear weapons is hardly appreciated under present methods where troops simulate too much realism and experience too little of it. Our maneuvers train men and units by grade-school or machine-gun techniques when kiloton weapons demand higher and more realistic processes. We will be remiss if we do not modernize our combat training and create permanent training grounds scientifically designed to stage the atmosphere and conditions of atomic warfare. Five days and nights on one of these grounds would be more valuable than three weeks of present-day maneuvers.

We have elaborate proving grounds for testing machines. If we pause to measure the impact of the atom correctly we will find it is time to construct some tactical proving grounds for men and units, and to modernize our umpiring system with the help of electronics.

NODEX 17

(*Continued from P. 31*) streamlining of combat forces.

For example, supply concentrations in the World War II ETO were mountainous. At times more than 20,000 tons a day were handled through a single beach, while during the most congested period up to 275 loaded ships lay offshore awaiting discharge. In Korea the entire logistical support of our fighting troops was at times funneled through a single port.

Such risks are inconceivable during the nuclear age, where concepts demand maximum dispersion of ships during a landing, and rapid unloading and dispatch inland of cargo. Only a very few ships can be in any area at one time. However, the number of deep-water ports is extremely limited; their locations are known to all and readily identified from the air. In a realistic evaluation of modern warfare, preservation of landing capability requires flexibility in using beaches and minor ports, landing craft and other lighters. NODEX was conceived to develop and test these capabilities in a specific mission: emergency support of U. S. combat forces in Europe.

Continuing series of exercises

These new offshore discharge exercises, of indefinite duration and originally scheduled to be held bimonthly, were conducted by Base Section of U. S. Army Communications Zone, Europe, beginning in 1954. This Base Section is a typical one, embodying class I depots and other installations, including three fixed ports, centered under the control of the 11th Transportation Terminal Command B. Within the terminal command, a so-called NODEX unit (15th Transportation Battalion) includes a boat company, a type A terminal service company (stevedore), a DUKW company, and a reduced-strength terminal service company (railhead). Besides the 15th Battalion's normal complement, additional troop and maintenance support was furnished as each NODEX required, including military police, medical service, added field communications, and ordnance, engineer and quartermaster field maintenance, as well as truck transportation from beach to railhead. Utility helicopters conducted air-sea rescue operations in all exercises. For NODEX 17, which was larger, these regular components were strengthened and further supplemented by three transportation service companies and a tramway company flown from Fort Eustis and Camp LeRoy Johnson. Also, a recently organized French DUKW company participated, and performed extremely creditably under U. S. command.

Originally most exercises were held on and around Le Verdon, on the south side of the Gironde Estuary. Here a good-sized temporary camp was built, and an excellent beach and stub pier existed. These exercises tested various equipment and techniques and perfected the battalion's training and organization. January 1957, when the first exercise in the latest series was held, brought a change of emphasis, in accordance with Department of the Army policy, to develop a wider range of sites and operations. Although certain technical tests have been conducted, main emphasis has been on perfecting port and beach plans, through exercises more representative of the rather wide conditions on beaches usable in an emergency, with reserve fleet landing craft available. It should be mentioned that France's southwestern coast has fewer landing sites than a casual inspection of the map indicates. Some apparently inviting estuaries and coasts are too shallow or have mud flats, and lack adjacent rail connections; tides are high; certain areas are uniformly rocky.

Swift currents and deep mud

Starting at the customary site of Le Verdon, midway in the exercise operations would shift to two other sites near Pauillac and St. Estéphe, respectively, farther inland from the Estuary's mouth. At first the selection of these latter sites dismayed the operations staff, since the Gironde Estuary, except at its mouth, is marked by a considerable tidal range, swift tidal currents, and soft, deep mud flats at all but the fixed ports. These sites were undeveloped, the only landing facilities being a small stone ramp at each. These protests were overruled; it was felt that questionable sites should be tested so that they could be accepted or rejected in future planning.

Initial plans placed major reliance on DUKWs, using piles and heavy planks to lead the vehicles onto landing ramps. However, these amphibian trucks proved uneconomical and unsatisfactory, because in the swift current they had to circulate from a ship downstream to a landing point, and then travel upstream over roads, thus reversing the direction of circulation at each tide change. Moreover, the lower end of one ramp was out of water at low tide, and interrupted traffic. So far as DUKWs were concerned, these sites were definitely not satisfactory.

An interesting method was worked out for landing larger types of lighters at barges anchored at the channel's edge (heavy anchors sank so deep in the soft mud they were never recovered). Access to the barge across the mud flat was gained over a standard tactical engineer treadway bridge. This bridge abutted on the high bank and lay across the mud flat at low tide. Trucks used in unloading were, of course, well within the bridge's capacity. The barges turned out to be unsatisfactory for such a pier, but it was readily apparent that a satisfactory ponton-cube pier could be constructed.

Analysis of the exercise showed, first, that DUKWs need not be brought into such sites; secondly, that the sites were satisfactory for debarkation by heavier lighters using an improvised pier. The required types of pier and bridging were developed, and resulted in a vastly improved system of unloading at tidal estuary sites.

April's exercise, at Suscinio and La Turballe on the south shore of the Brittany peninsula, tested the ability of a NODEX battalion and all its supporting facilities to

Pierced-steel planking that gave trucks a footing on soft beaches was upturned by the surf during high tides

move forty miles to a new location midway in the operation. For this jump the DUKW company was left behind (much to the dismay of officers and men) and four barges from the reserve fleet, propelled by commercial tugs, were added to the boat company. Reconnaissances and other studies had indicated generally satisfactory conditions at the beaches selected, except for some rocks and shoals in the sea approaches at Suscinio, considerable distances to railheads, and beach exits at La Turballe which were of questionable adequacy. However, all these foreseen obstacles were overcome without too much difficulty.

Close navigation control kept lighters out of dangerous shoal areas. Truck support was adequate for long hauls to distant railheads; the roads to beach exits, when considerably improved and with traffic closely controlled, did not hamper the flow of traffic during the exercise. However, despite previous study, an unforeseen obstacle appeared: both beaches were unexpectedly soft and more difficult to cross for wheeled vehicles than the other beaches at which the battalion had been accustomed to operate. Much trouble was found in keeping pierced-steel planking aligned on loose gravel and sand so that trucks could keep moving up and down the beach during unloading. The damage in previous exercises caused by leaving pierced-steel planking in place while high tide brings surf in on top of it, is shown in the photo on this page. The DUKWs not being engaged in this exercise, and the rough-terrain forklifts being only experimental models and difficult to keep running, the beach crossing considerably slowed down operations.

The second beach, at La Turballe, was found so soft that even the rough-terrain forklifts with their large soft tires could not move their loads. Therefore, some of the engineer treadways used in the previous exercise were moved to the site and laid across the beach, and proved satisfactory. The exercise provided another solution to the problem of crossing soft beaches with heavy equipment, which had slowed up debarkations in the past.

Shallow-draft ports tested

NODEX 15 came next, at St. Gilles-Croix de Vie, a minor fishing port. This exercise was designed to explore the feasibility of wartime use of small, shallow-draft ports along the coast. Many of these dry out completely at low tide and have extremely limited working conditions in their harbor areas. One of the principal restrictions at St. Gilles was the limited railhead, only a portion of which could be used because of commercial fishing and other civilian traffic. This exercise was developed with a minimum of participants and was extremely inexpensive, since it required little construction

or truck transportation. Ships lay more than a mile offshore from the harbor's mouth, and lighters plied back and forth without difficulty except that the larger craft moved only at high tide. At low tide DUKWs moved up the practically dry channel with their wheels on bottom. Barges and other craft discharged at the fishermen's pier, while the DUKWs moved up a specially constructed ramp directly to the railroad station less than a hundred yards away, and unloaded at carside. It became apparent that such ports provide debarkation facilities generally better than beach landings, even though some cannot be used in peacetime because of fishing, tourist traffic, and oyster cultivation.

NODEX 17 further expanded the testing of certain concepts already mentioned. Originally the plan was to land nine ships at three debarkation points. One point was to be the aerial tramway from ship direct to rail; the second, an over-the-beach landing operation of a more conventional type; the third, a combination of a very small pocket beach and a very small tidal port, which together would handle the lighters from one ship. Preparations for this exercise encountered a very severe setback. The DeLong Pier for installing the tramway was damaged by a storm while in the vulnerable stages of construction, before it could be raised free of the water. When this happened operations were rescheduled, and eight ships were sent into the two remaining landing points.

Testing of organizations

Because of its large size, NODEX 17 satisfactorily tested and developed certain organizations for over-the-beach debarkations. All previous exercises had involved single-ship landings, with a transportation battalion headquarters controlling usually one boat and one DUKW company, one terminal service company (stevedore), and one terminal service company (railhead). Such exercises had already indicated that there are relatively few occasions where only a boat company or only a DUKW company is enough lighterage for unloading a ship. However, there is no TOE composite lighterage company, and the battalion headquarters is too large for unloading a single ship. NODEX 17 proved that extending a battalion to cover two or three widely dispersed unloading points requires a great deal of extra signal communications, traffic control, and planning and coordination which would probably be beyond the capabilities of units less thoroughly oriented and supported by higher headquarters than the current NODEX battalion. Based upon this exercise it appears preferable to organize two-ship unloadings, rather than using a single beach or nearby beaches controlled by a battalion headquarters. For this both a DUKW company and a boat company could be properly and economically utilized. Two terminal service companies (stevedore) can advantageously work a ship apiece. In NODEX 17 a single railhead company with equipment and personnel suitably augmented proved entirely competent to run a railhead handling the output of a double unloading. In that exercise the railhead company of approximately 270 men, most of whom had had no prior training in railhead operations, handled and documented up to 2,000 tons of cargo a day, including heavy ammunition.

This exercise therefore clarified the mission and function of the battalion, use of a two-ship discharge area to facilitate suitable combinations of lighters consistent with practicable TOE units, and a concept for employing a railhead company that provides much more economical use of personnel and a more realistic use of railheads. This plan, of course, requires mooring two ships reasonably close to a single beach, but because such ships frequently have to lay out two or more miles to obtain necessary draft, usually a reasonable degree of dispersion can be obtained without too greatly lengthening lighter travel. In other instances a wartime two-ship unloading operation could advantageously use pocket beaches for one ship and a small port for another, both employing a nearby railhead. Such a scheme of operation offers important advantages in many cases and increases the flexibility of debarkation plans.

New developments

Important new developments are under way through research and development. Some greatly improved new equipment, like the rough-terrain forklift, contributed considerably to the operation by transferring cargo from heavy lighters at the surf line directly to trucks at the high-water mark. Further development of amphibian lighters like the BARC (Barge, Amphibian, Resupply, Cargo) is awaited with considerable interest. The addition of more modern equipment to the reserve fleet will steadily increase the effectiveness and flexibility of operations. Most challenging are the potentialities of the new roll-on-roll-off techniques, which could increase tonnage discharge at a single unloading point many times over that done by conventional methods. However, in adopting the latest ideas we must not let imagination obscure proven capabilities, pleasing though the prospects appear. The fleets that exist today, which we must unload in an emergency, consist largely of commercial vessels and Military Sea Transport Service ships rather than roll-on-roll-off craft. Lighters now in the European theater are mainly of World War II manufacture or type, but they can still do a good job if properly used, and having them on hand is a great advantage. They do not need to be purchased and delivered or airlifted.

How far the Army can go in developing new types and putting them into use, and implementing new ideas for logistical improvements within the next few years, depends upon budgetary considerations. Meanwhile, the NODEX exercises along the western coast of France provided vital information and experience in actual debarkations employing troops, equipment and techniques actually available now.

Electronic Building Blocks

As radios and other electronic gear become smaller (and lighter) field repair of miniaturized parts becomes almost impossible. The answer is modules: packaged sub-assemblies that can replace worn-out or damaged parts simply and easily

BRIGADIER GENERAL EARLE F. COOK

DURING a trip to the U. S. Army Southeastern Signal School at Fort Gordon, Georgia, where I observed electronic maintenance training, I asked an instructor what feature of our equipments was causing the maintenance trainee the most trouble. He answered: "Things are being built pretty compactly. The repairman has difficulty reaching the trouble area, and frequently damages two good parts while concentrating on the repair of a bad one."

On a visit to the U. S. Army Signal School at Fort Monmouth, New Jersey, another instructor told me: "Spoilage due to miniaturization is becoming a real problem. The repairman has a hard time getting at the miniaturized part which is giving trouble. We're finding that the number of cold-soldered joints is increasing."

These comments point up examples of some of the liabilities that go with the assets of scientific progress. Our equipments have never before been so compact, yet they are efficient and reliable. But this miniaturization exacts a price, and is responsible for our dilemma.

Not so long ago, perhaps the Army communicator might have been the only man disturbed by this situation. Today we must all be more than casually interested, because electronics have become a part of the daily life of the commander, the combat soldier, and the ordnance expert. Naturally, we are moved to ask questions like: How did this situation come about? Will it continue in this way? What are we doing about it?

The answers to those questions should be of general interest. To get them let's trace the trend in electronics equipment design and production. For a specific class of equipment, let's take our tactical radio sets.

Figure 1 shows relative sizes and lists the dimensions of three successive versions of our man-handled radio sets: the SCR-300 of World War II, the AN/PRC-10 of Korea, and the AN/PRC-25 now being produced. The advantages of the newest, the AN/PRC-25, over its predecessors are clearly shown. But the advances which have made these improvements so marked may be responsible for some of our maintenance problems—it may be, too, that the key to our future maintenance difficulties lies in the latest production developments.

Figure 1 also shows tops and bottoms of these three radio sets after the cases have been removed. This is what the maintenance man sees when he trouble-shoots. Several things are evident. The SCR-300's components were large enough to handle easily. They were all connected by a confusion of wiring which seemingly ran every which way and which made the repairman's job fairly difficult. To tackle the increased compactness of Korea's AN/PRC-10 he almost needed the delicacy and finesse of the watchmaker's touch, though a few small packages of components are evident which somewhat eased his problem. On the other hand, the AN/PRC-25 certainly appears to be the "cleaner" of the three, for the number of small packages, together with the printed circuit boards, have apparently eliminated the tangle of wires. Vacuum tubes, too, are conspicuous by their absence, for the good reason that the AN/PRC-25 is transistorized except for its radio frequency (RF) amplifier tube, which develops its output power. In the present state of the art, the transistor does not meet our requirements for output power.

These photos also show the trend in electronic construction. Originally, both military and commercial radio sets were built as a single entity or assembly, on a rigid chassis, with relatively large and cumbersome components. All this made for equipment quite easy though tedious to repair, but far too bulky and heavy for present-day concepts of mobility. Besides, the sets represented extremely low volumetric efficiency. (*Volumetric efficiency* means the ratio of the number of parts in the set to the total cubic volume the set occupies.) In other words, they contained very few parts per cubic foot of space. While this did not impair electrical efficiency, it contributed greatly to the over-all physical disadvantages of the equipments.

Ultimate in compactness

For some time technicians at the U. S. Army Signal Engineering Laboratories have been attacking the problems of size, weight, and low volumetric efficiency. Several years ago they began a program that had as its target an

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Brigadier General Earle F. Cook commands the U. S. Army Signal Corps Engineering Laboratories at Fort Monmouth, N. J. During World War II he was in Signal Corps Intelligence and commanded the Army Security Agency in Europe. General Cook was the author of "What's What With Transistors in the Army," in our March 1957 issue.

FIGURE 1. The trend in design of tactical radios

WORLD WAR II—SCR-300

Size: 15½ x 11 x 5 in.

Volume: 853 cu. in.

Weight: 38 lbs.

Frequency: 40-48 mcs.

Power: .5 watts

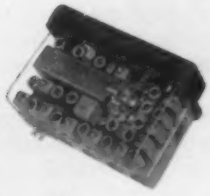
Battery—

Type: BA-70

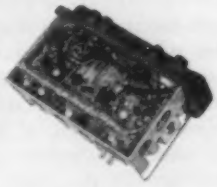
Size: 10⅛ x 8 x 4⅜ in.

Life: 15 hours

Cost: $7 to $8



Top View



Bottom View

KOREAN WAR—AN/PRC-10

Size: 17 x 9 x 2¾ in.

Volume: 421 cu. in.

Weight: 25 lbs.

Frequency: 38-55 mcs.

Power: 1 watt

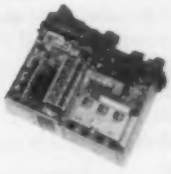
Battery—

Type: BA-279/U

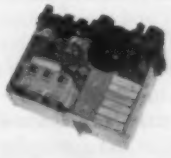
Size: 8⅜ x 8⅜ x 2½ in.

Life: 20 hours

Cost: $5



Top View



Bottom View

FUTURE—AN/PRC-25

Size: 10 x 10 x 4 in.

Volume: 400 cu. in.

Weight: 15 lbs.

Frequency: 30-70 mcs.

Power: 1.5 watts

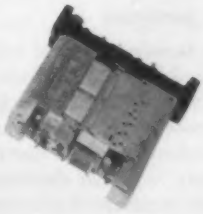
Battery—

Type: Experimental

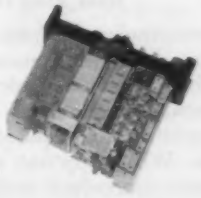
Size: 8⅝ x 3⅛ x 2⅝ in.

Life: 20 hours

Cost: $3 to $5



Top View



Bottom View

ultimate 100,000 parts per cubic foot coupled with minimum size and weight. They realized, however, that this goal was far in the future and would require completely new concepts of electronic equipments production. They saw possibilities for success in the program, which has since been adopted by industry, and the combination of military and civilian thinking has been used in the program's implementation.

As a first step, sets were broken down into sub-assemblies in which large functional units like RF tuners, or audio frequency (AF) amplifiers, or power supplies were each contained in its own package and the several sub-assemblies necessary to comprise a complete set were then brought together on an integrating base or in a single case.

This sub-assembly approach offered several advantages over single-chassis construction. It allowed an ease of manufacture in which production lines could turn out sub-assemblies simultaneously. It provided almost specialized repair and maintenance since each sub-assembly could be individually processed. There was some increase in volumetric efficiency even though this was a minor gain. Further, this technique made possible the standardization of certain sub-assemblies and thereby avoided obsolescence of entire equipments. For example, although a new RF tuner came into being, the AF amplifier used in conjunction with the new tuner came from an older model radio set.

One unsatisfactory result of this approach, which in one sense is a saving, is that it could be considered a handicap by the researcher or the development engineer if we attempted to standardize on an amplifier and did not permit him free latitude to develop or select a new one to go with the new tuner. Here a balance is necessary, for this field is one of the more difficult to administer during research and development. But an enterprising and realistic R&D program makes the latest developments always available to the research engineer, thus permitting him to explore and evaluate the new designs as compared to any former standardized versions before deciding which should be used in the particular application.

The sub-assembly technique necessitated a study in packaging methods, for without an efficiency within the sub-assembly little gain would be realized. In general, for all functional breakdowns several package styles were examined: the flat or card method which retains the feature of full repairability; the semi-repairable flat construction in which only the tubes can be removed for replacement. Finally, the deck or layer construction in which each deck represents only a partial function, with no repair contemplated or practical; rather, the individual decks are readily replaceable. It is this last type which is so desirable for missile application.

New uses for new materials

While studies in packaging proceeded, several other advances were being made in allied fields which would directly bear on electronic production. Which came first and stimulated the others is as moot as the-chicken-and-the-egg cliché, and equally as inconsequential in our discussion. What happened, most likely, was that electronics engineers everywhere realized the necessity for investigating and using new materials in new ways since improvements that used conventional-type materials and methods had reached the classical stage where tremendous effort would yield only a marginal improvement. An almost radical approach was indicated if progress were to continue.

Investigations and studies like these resulted in the printed circuit and auto-sembly technique for which Army Signal Corps engineers hold basic patents. Materials studies resulted in new components that are smaller, lighter, and have greater volumetric efficiency. These studies, too, were assisted largely by the military effort. Furthermore, the advent of the transistor opened new vistas for realizing compactness and miniaturization. Initially this was a completely civilian undertaking but soon defense contracts provided added stimulus. Each advance made for greater reliability.

A few words about each item are necessary to even partially understand and appreciate the thinking that goes into modern electronic equipment design and the necessary maintenance and repair.

Ceramic wafers for transformers

In the components field, changes in materials usage and application have been fantastic. For example, in practically all tactical radio sets there are a number of IF amplifiers. A considerable portion of these, so far as size and weight are concerned, use the IF transformer, a combination of two coils and one or more condensers, usually supplied in a metal can. The most recent advance in the state of the art replaces the transformer with a simple ceramic wafer or wafers that are easily produced, use no strategic materials, are less costly and time-consuming when turned out in large quantities, and in addition provide a really miniaturized component. Dozens of different such advanced component developments could be cited.

The printed-circuit technique provides a rapid, inexpensive method of duplicating the integrating boards rapidly and accurately. This does away with the vagaries of hand-wiring, and uses a dip-solder method which is much more reliable than older processes. Flux and solder can be handled more uniformly by machine than they could with former hand methods.

The transistor has long-life expectancy, extreme compactness, potentially great reliability, and certainly is more economical in weight and power-supply requirements. Since we are concerned, however, with volumetric efficiency, it is well to point out that so far as the transistor is concerned, volumetric efficiency is very low—probably in the order of one per cent. But in this respect the researcher and the development engineer as well as the production expert are stymied at least momentarily until further advances in automation permit machine processing of the minute particle which is really the transistor. [General Cook gave a detailed description of transistors in "What's What with Transistors in the Army" in our March 1957 issue.—ED.]

An entirely new field of micro-miniaturization is opening, in which the Army program is predicated upon evolutionary processes that will use the many diverse knowledges and skills of the country's parts specialists, will recognize the tactical and practical needs of combat equipments, and will have universal acceptance as worthwhile processes by the electronics industry. In the Army Signal Corps Engineering Laboratories long-range plan these points have been and continue to be cardinal prin-

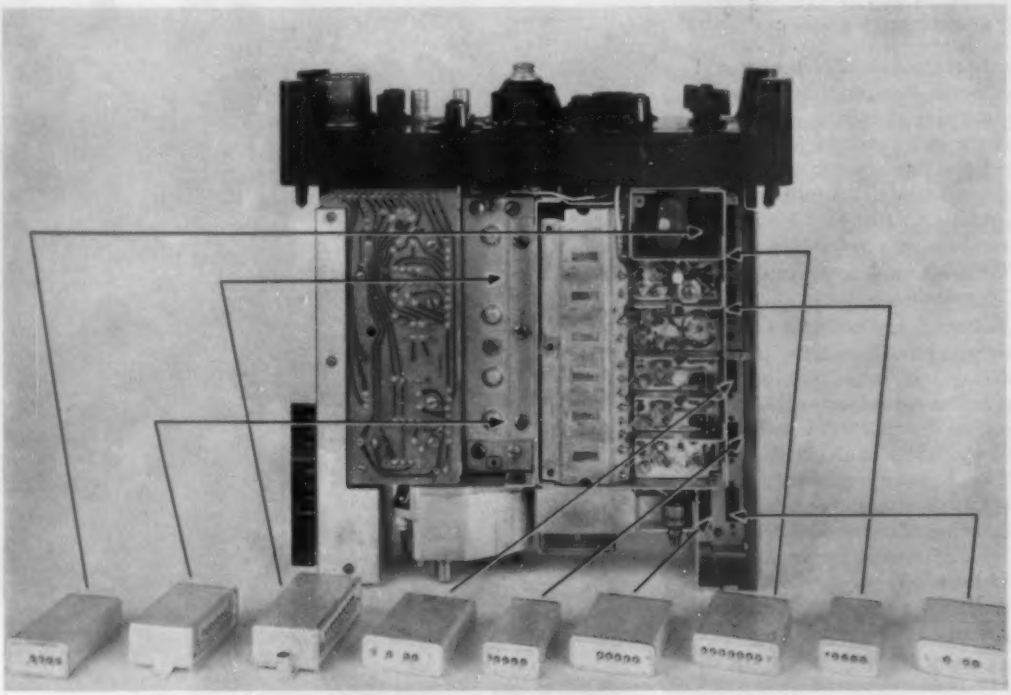


FIGURE 2. Modules in the AN/PRC-25. Left to right: crystal calibrator, transmitter audio and modulator, receiver audio, IF filter, second IF amplifier of 4.3 mcs., mixer and first IF stage, IF filter, IF amplifier, Limiter discriminator.

ciples. The program has been fruitful in stimulating ideas leading to new miniaturized parts usable by all the services.

Building block assemblies

These new advances have resulted also in a type packaging now commonly referred to as the *module*. This is a much smaller package than the sub-assembly; usually a complete functional circuit is contained in a module. Usually the module terminates in a multi-contact plug which fits into a suitable jack affixed to a printed circuit board; it is a "building block" designed to aid flexibility in circuit design and construction.

General Specifications for Electronic Modules, MIL-E-19600 (AER) dated 1 September 1956, states that the design goals for modules are "to permit the redesigning or modification of an existing equipment in a minimum of time, to allow the integration of a number of equipments into a system" and to standardize "the module form factor, mounting and cooling, thus decreasing engineering time for new design."

The AN/PRC-25 emphasizes this modular construction technique. Figure 2 shows nine modular units removed from their chassis. The 3-inch rule alongside the chassis provides dimensional comparison. Each module is functional. It is hermetically sealed, and the volumetric efficiency is at a new high for this type of equipment, in some modules reaching 30 per cent. Within at least one of these modules a parts density of 64,000 per cubic foot has been attained. The maintenance problem seemingly resolved into determining which module is giving trouble, and making a direct replacement for it.

100,000 parts in one cubic foot

Furthermore, it is entirely possible that the defective module may be thrown away, and studies are under way with discard as the objective. This involves, among other considerations, cost of the module against difficulty of repair; the practical answer is what we seek. Indications are that only in a few unique instances will economy dictate the necessity to make repairs within the module. Such repair, too, would be done at depot level. The increased reliability brought about by careful component and module design will make this possible. This means, then, that we will have only first-echelon repair and depot repair as we now know them. We can probably live with this situation. On the other hand, unless some such plan is evolved, will we be able to maintain our electronic equipments? How would you like to be the repairman faced with a job on a piece of equipment having a parts density of 100,000 to the cubic foot?

Because the science of electronics as a whole is advancing so rapidly we must realize that things may seem to become worse in this field before they begin to show improvement. USASEL engineers and industry are aware of the maintenance problem and seek a solution. Perhaps the radical approach of the throw-away module accompanied by elimination of the maintenance man is the answer.

THE ARMIES-IN-BEING STRENGTH OF THE COMMUNIST EMPIRE

Secretary of the Army Brucker has said that the "Soviet-Sino bloc has a gigantic military machine consisting of over 6.5 million men in its ground forces." He accounted for this number as follows: Soviet ground armies, 2.5 million; Chinese Communist Army, 2.5 million; and Soviet satellite armies (North Korean, Vietminh and European satellites), 1.5 million.

Dr. Raymond L. Garthoff, a recognized authority on Soviet military affairs is skeptical as to whether announced Soviet reductions in their armed forces of 1,840,000 in 1955 and 1956 were actually made in their entirety. The Moscow announcement of 6 January 1958 of a further reduction of 300,000 in Soviet armed forces may also be viewed skeptically. In any case the active land forces of the Communist empire exceed the active land forces of the free world.

These Communist millions are not all

THE ARMY'S 1959 BUDGET

(Continued from P. 21) budget as proposed cannot be said to reflect any particular sense of urgency at least for the first two:

(1) The prompt replacement of the Nike Ajax by the vastly superior Nike Hercules which has already been developed.

(2) The rapid introduction into our arsenal of the new Army Hawk, the only defensive missile to protect against low-flying aircraft.

(3) The urgent need for the fast development of the anti-missile missile. The Nike Zeus is still in the developmental stage but testimony would indicate that it is much further along than other projects in this field.

General Taylor has said: "In my judgment it is reasonable to forecast that a combination of the Nike Zeus and Hawk, would be as nearly an optimum defense as we can imagine at the present time."

The Johnson sub-committee was vitally interested in these problems too. In response to questioning, General Taylor had this to say about the Army missile program: "In the missile field we are seeking to expedite a second generation of missiles to replace the Honest John, Corporal, Redstone, and Nike Ajax missiles, now in our current inventory. This second generation includes such promising missiles as Little John, LaCrosse, Sergeant, Hawk, Nike Hercules and Nike Zeus. In spite of the fact that the Army gives favored treatment to these programs with the funds available to us, it has not been possible to support them at desired levels of spending. As a result there has been a considerable slippage in most of these programs."

Funding of the anti-missile missile program has been separated from the Army and the Air Force. It is contemplated that money for the anti-missile and satellite programs will be assigned to the Director of the Advanced Research Projects who will determine the programs in the fields which are to be pursued and will supply the money for the programs.

A final quote from General Taylor's testimony will serve to point up the inadequacies in missile funds: "I would not single out the Nike program as a factor militating against the modernization of the Army but rather as a part of that modernization. The Army has always had an important mission in the field of air defense and in the national interest should continue to have it. In view of the rising costs of new weapons, including the Nike family, and of the requirement to offset wear-out and obsolescence in our equipment inventory, I do not believe that the Army can modernize to the extent I consider necessary without a significant increase over funds received in recent years."

In the FY 1959 budget, there is listed the sum of $758 million in direct obligations for Army production and procurement of missiles and ammunition as opposed to $788 million in FY 1958. This reduction of $30 million for FY 1959 will preclude any acceleration of the solution of the Army's air defense problems

"hordes" of cannon fodder. The Soviet Army especially is a trained, disciplined fighting force, armed with modern post-World War II weapons. Mr. Brucker emphasized this when he said: "No one who has read or heard about the November 7th Communist parade in Moscow could mistake the growing modernization of the Soviet ground army and its ability to fight a nuclear war. Our people should be sharply alerted to this threat."

The only setbacks the Communists have experienced since 1945 have occurred when land armies bore the brunt of resistance to aggression. As General Taylor has said, the Strategic Air Command has been capable of keeping the "Big Peace" but hasn't been capable of keeping the "Little Peace." To keep the "Little Peace" active army forces sufficient to deter the Communists from embarking on limited aggression are essential. These forces must also be sufficient to stop the limited aggression before it grows into a big war.

without drastically reducing other missile procurement programs. Since Nike Zeus work was carried in the Research and Development account presumably the transfer of this activity to DOD would have no reflection in the reduced funds for the procurement of missiles.

Research & Development

In the fiscal 1959 budget there is $466 million in direct obligations for Army Research & Development as compared with $400 million in fiscal 1958. Actually, each year $28 million of this goes to DOD for other projects and isn't available to the Army. With the anti-missile missile program now in the Department of Defense, the increase in R&D money reflects something more than this. But General Gavin has stated that an adequate Army R&D program in fiscal 1959 would require something on the order of $700 million. Thus we are falling far behind and our real capabilities are not being fully used in this activity. So much of the R&D program is necessarily classified that it is impossible to analyze in detail just what areas of greatest significance are retarded. It is estimated that something on the order of $70 million of Army R&D funds will go into basic and applied research. Additionally, it is essential to the Army's ability to fight on the modern battlefield that we develop rapidly much greater capabilities in combat surveillance, target acquisition, new air vehicles, better radar and communications equipment, an adequate heavy helicopter and a better family of truck and tank motors.

These are just some of the major items. Research and development on these items is imperative lest we fall even farther behind the Soviets in ground battlefield equipment. The world has had dramatic evidence in recent months of the foolhardiness of stinginess in research and development. With the tremendous scientific breakthroughs which have occurred in many fields in the recent past, there has never been a time when we could expect greater return on our research and development dollar than at the present, a fact which the Soviets have been quick to grasp. A real sense of urgency would seem to dictate a bold increase in research and development at this time and yet the FY 1959 budget for all military research and development by all military services shows an increase of only $400 million. Early in January Congress was considering a supplemental appropriation of $1.26 billion for FY 58 all scheduled for the Air Force and Navy.

THESE are considered to be some of the most significant features of the new budget which the President has proposed to the Congress for the coming fiscal year. How much of a conflict it represents between the stated objectives of our National Policy as outlined in the President's State of the Union message and the means to implement these policies it is difficult to assess. Certainly it will not provide the kind of army the President's message seemed to call for.

THE ANGELS FLEX PENTOMIC WINGS

Troopers must work with tanks, even though they are not organic to the division

(*Continued from P. 24*) advantage through the addition of a company PRC-10 radio net. This net insures better control and enables the company commander to direct his platoons and supporting weapons from greater distances. During the initial phases of training just after reorganization, company commanders—particularly those who had commanded companies in the old organization—had difficulty in controlling their larger, more complex units. They tended to follow the leading elements too closely and also tried to bite off more than they could chew in their initial attacks. However, by the time the ATT began, company commanders had learned to place themselves where they could best control their fighting platoons and their reserves as well as the fire of their supporting weapons. They had also learned to select intermediate objectives. The most frequently used formation was two platoons up and two back—a formation that facilitated control and also insured momentum in the attack.

Another thing they had to learn was how to control eighteen vehicles. Quite often these vehicles were too far forward both in delay and attack situations and were an easy means of locating a company from the air even though none of the soldiers on foot were exposed. However, commanders soon developed SOP for controlling their vehicles, so that during the final tests their handling of them was much improved. Usually vehicles were placed under the executive officer or the first sergeant well to the rear and were called for only when and in the numbers needed. In the defense the companies became quite adept at tucking their quartertons away in cover or folds in the ground so as to be not easily detected from the air. All in all, the tests indicated that the ROTAD rifle company is a powerful, hard-hitting unit capable of sustained combat. Commanding it, however, is a bigger job than was the case with the old company, and requires the highest order of skilled leadership.

Battle Group

The battle group (five rifle companies, a headquarters company, and a heavy-mortar battery) has a strength of 1,584. The big question with respect to this unit was whether the five large companies could be effectively controlled by a single headquarters. The tests proved that they could. The greatest problem was in communications. At first there was too much traffic and too much unnecessary talk on the air. As the need for brevity became apparent, communications discipline improved, so that by the end of the final tests the battle-group commander was usually able to control his units without too much difficulty.

In the delay-withdrawal phase of the test, the flexibility of the battle group was proved by a variety of formations: four-up-one-back, three-up-two-back, and a two-two-one formation. Three-up-two-back was the most popular and appeared best adapted to most situations. Fronts needed for the delay phase averaged approximately 8,000 meters but could have been wider had more terrain been available.

Since the division was executing a mobile-type defense during the defensive phase, the battle group was

required to organize as a perimeter. Depending on terrain, these perimeters averaged 9,000 to 10,000 meters in circumference, with a minimum interval of 5,000 meters between battle groups. Although there was initially some experimentation, for the final test all five battle groups organized with four companies on the perimeter and one in reserve. This gave the battle group a strong reserve as well as a fairly adequate defense. At first there was considerable speculation as to the size of perimeter required for adequate dispersion within it of group headquarters and trains, the reserve company, the mortar battery and other attachments such as engineers and tanks. This was naturally a matter of concern since the vehicles of the group, exclusive of detachments, numbered 205. With proper regard for camouflage and defense, it was found that, given an average amount of cover, the 9,000- to 10,000-meter circumference would permit adequate dispersion within the perimeter. In nearly all cases aerial photographs of defensive areas and aerial observation failed to reveal sufficient evidence of the size of the force occupying the area. We visualized that after organizing the perimeter all but perhaps one or two companies would move out into the gaps between battle groups and there organize company-size positions. However, time did not permit practicing this tactic.

The battle group showed to best advantage in the attack. This phase of the problem usually lasted about eight hours from line of departure time to reorganization on the final objective. During the several problems the number of objectives taken varied between eight and twelve. Frontages involved varied with the situation, but one was found to approximate 5,000 meters. The depth of the objective usually extended about 5,000 meters. In general, the battle-group commander attacked initially with not more than three companies. This simplified his control problem and gave him a powerful means of maintaining the momentum of his attack. As a rule, each company participated in two attacks, and many times in three. This provided the battle group with valuable experience in troop-leading principles for continuing the attack.

Although it proved to be lacking some items of equipment, the group staff seems large enough and properly organized to sustain operations on a twenty-four-hour basis. When properly used, the deputy commander is a particularly valuable adjunct. However, his intended use as a task-force commander imposes some limitations. Since at the present time there is no additional frequency in which to net a separate task force, both the task force and the remainder of the group compete for time on the same communications net. This largely defeats the purpose of the task force, which is to decentralize control and give the commander fewer elements with which he must deal directly.

Heavy-mortar Battery

The heavy-mortar battery has two platoons each armed with four 4.2-inch mortars. In an airhead operation it may be sound to limit the mortar battery to two platoons of four tubes each, since ammunition for more would probably not be available. However, in a strictly ground role, such as the 11th Airborne Division has at present, three platoons should be provided to adequately support the battle group.

Likewise, a new weapon with less minimum range and greater maximum range is a definite requirement. During the ATT it was sometimes found that the mortars, when in positions inside the perimeter, had neither the minimum range to protect their own battle

Camouflage and concealment deny to the enemy knowledge of the size of a force

group nor the maximum range to fire in defense of another group. Manning the heavy-mortar battery with artillerymen is workable. Although it is a difficult admission to make, the artillerymen have attained a degree of accuracy in mortar fire far above previous experience in mortar units manned by infantrymen. However, some changes are indicated as necessary in personnel and equipment of the battery which will be more clearly defined after reports on separate firing tests for batteries have been completed.

Headquarters Company

The headquarters company consists principally of a medical, a signal, a supply, an administration, a recon, and an assault-gun platoon. In general, this organization functioned well during the ATT. The emergency repair platoon attached to the battle group from the maintenance battalion of the support group usually operated from the trains area. However, it was common to see a repair team doing major repairs beside a road or in the forward area. On the average, the maintenance elements of the division represented in the tests were assigned thirty to forty automotive and a like number of signal jobs a day, and usually repaired and returned to service all but two or three of them the same day.

Considerable difference of opinion arose over the fighting value of the 106 recoilless rifle mounted on a jeep. Many object to its high center of gravity. During the tests three 106 jeeps upset, with serious but not critical injuries to crew members. Considering the terrain and the number involved—eighty in the five battle groups—three accidents would appear to be not excessive. Crews soon developed confidence in their weapons and a correspondingly high degree of proficiency in their use, particularly in speeding in and out of action, moving across country, and preparing concealed positions. As a rule, crews were taught not to dismount the 106 in a defensive position. Concealed positions were selected and then routes reconnoitered to rundown firing positions. If this was not feasible, jeeps were dug in and carefully camouflaged. Despite these precautions, it must be accepted that attrition among vehicles mounting these weapons will be heavy because of their thin skins and high silhouettes.

Use of helicopters

Throughout the tests maximum use of H-34 helicopters was encouraged by the umpire group. However, the battle groups needed little urging in this respect.

During the delay-withdrawal phase, helicopters were used to counter guerrilla activity on flanks or in rear, or to move units to new delay positions.

During the defense phase helicopters deposited fortification materials on positions, patrolled areas of surveillance around the perimeter and moved the reserve company from one side of the perimeter to the other to counterattack a penetration.

Mortars must protect their own battle group and fire in defense of others

During the attack phase they were used to quickly move reserves forward from dispersed positions to attack in flank or rear, to quickly exploit an atomic strike, or to displace mortars forward.

In all phases helicopters hauled supplies (usually about fifteen tons a day), replaced jeeps and evacuated breakdowns, reconnoitered, evacuated casualties, relieved outposts, and transported tank-killer teams to counter armor threats.

Initially these helicopter operations were not too well executed, especially in the practice ATT conducted by the division prior to the corps tests. Common faults included poor selection of landing zones and routes between landing zones; failure to land near woods where embarking troops were concealed, thus prolonging loading time; lack of coordination between formations of landing helicopters and troop formations, again prolonging loading time; failure by pilots to fly contours and conceal their craft from enemy observation; failure

by ground troops to properly mark landing zones or to provide personnel qualified to direct helicopter landings; failure by ground troops to provide enough personnel to unload supplies hauled by helicopters.

However, as the tests progressed, most of these difficulties were overcome. A key factor in this progress was the detail to the battle group of a pilot from the aviation company—in addition to the one normally assigned—to act as air adviser and coordinator. This officer was required to submit to division a daily overlay showing possible landing zones and protected routes between landing zones. After an operation was decided upon, this officer flew an H-13 to the division's air operations center where the H-34 copilots had been already assembled for briefing. By the time copilots were briefed, pilots usually had their craft ready and the operation proceeded without further delay.

At best, however, these operations were not perfect, and there is still vast room for development and improvement.

Helicopters need an ARC-44 type radio so that contact with ground troops can be established.

To simplify helicopter-troop coordination, we must adopt standardized 'copter-landing formations, such as the diamond, square, line, and column.

We need a fast three- to five-place armed helicopter that can lead the H-34s and that can also reconnoiter the landing zone by fire if necessary.

We found it undesirable to use the H-13 for leading the H-34s.

It was not practical to require the H-34s to maintain the slow speed necessary to remain behind the slower H-13.

This discussion of helicopters cannot conclude without a word about their vulnerability. So long as they are available in limited numbers a wise commander will use them carefully. No doubt, with small risk they can penetrate the enemy's position at night, or in daytime if the terrain is extremely wooded. However, they cannot land in daylight in the face of enemy fire. Therefore, when used in small numbers, landing zones must be either already secured by friendly troops or we must have firm intelligence that the landing zone is free of the enemy.

ROTAD is sound

It is not possible in this limited space to cover the very many lessons learned and the techniques developed during our ATT, nor is it possible to relate all the imperfections in the new organization. We can say, however, that every battle group finished its test fully confident of its ability to fight. The ROTAD battle group proved it has staying power, flexibility, and adaptability. We must remember that our ATT tested only a part of the division. It did not test at division level its fire support, its engineer capability, its logistical sufficiency nor its ability to control all the division's major elements on the battlefield. Notwithstanding, we firmly believe the basic structure of the ROTAD division to be sound, and that it provides a firm basis upon which to develop future tactics.

Helicopters must replace jeeps for reconnoitering, evacuating casualties, relieving outposts, and transporting tank-killers

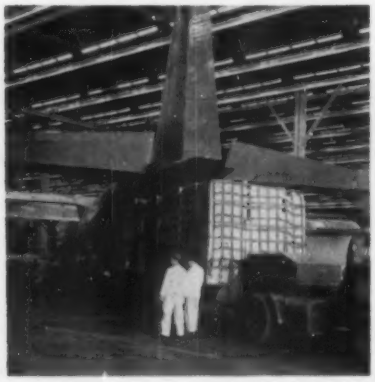
Irons in the Fire

Water Purifier

A weapon for combating water supply contamination comes in the form of a unique ultraviolet radiation device that operates on common electric current. Even badly polluted water can be purified to public health standards by exposing it to the powerful ultraviolet rays from the four sixty-inch long special glass, ultraviolet tubes which extend through the twelve-inch diameter, seventy-two-inch high tank. No taste or odor is added and no valuable minerals present in good water are destroyed or lost. No chlorine or other chemicals are used. Operation is entirely electrical, fully automatic. It was developed by the Sepco Corp., of Pottstown, Pa.

Airlift Logistics Advance

A high-speed cargo loading and unloading system for the Hercules C-130 transport has been developed by Lockheed. It can inject 35,000 pounds of cargo into the cavernous interior of the plane in forty seconds and yank cargo out with the same speed. Using a system of rollers, pre-packed pallets, and electric winches, the new method shows a saving of forty per cent in manpower and a ninety per cent reduction in idle ground time for the plane in loading or unloading. The C-130 can be unloaded and reloaded again in about fifteen minutes as compared with a usual time of two to four hours, or more.



The C-130 and its 35,000-pound load

Televised Phone Calls

The Technical Products Department of General Electric, using "slow-scan" TV, has successfully demonstrated a system for transmitting pictures over regular telephone wires. Slow-scan TV is a principle for reproducing televised images at the rate of one image every five to ten seconds instead of the thirty frames per second of commercial television. The first military installation of the system will be made early this year.

Portable Atom Power Reactor

A portable atomic reactor built in self-contained packages 9 by 9 by 30 feet, weighing from 6 to 15 tons each, and transportable anywhere in the world by existing cargo aircraft, is being developed by the Martin Company.

The reactor core, consisting of approximately 700 tubes clad in stainless steel and filled with enriched uranium fuel, has achieved a self-sustaining reaction. The fuel elements, under tests by the AEC for eleven months, attained a burn-up factor of 41.7%. In layman's language this is comparable to an automobile carburetor which was expected to produce an output of 30 miles to the gallon achieving an output of 41.7 miles to the gallon.

Sky Jam

Traffic jams in the sky are a growing problem vital to the operation of commercial and military aircraft. But electronics may provide a solution. A research study sponsored by Army Signal Engineering Laboratories and the Air Navigation Board is being conducted at Armour Research Foundation of Illinois Institute of Technology. Scientists are simulating the flow of air traffic on an electronic digital computer and investigating new air traffic control systems. The research area consists of New York, Washington and in between.

Self-cooling Aircraft Generator

The latest forward step in the battle against the heat barrier in aircraft is a new self-cooled device which uses air pressure to generate electricity and air as a lubricant.

Called a "turbonator," the device consists of a small turbine wheel mounted on the shaft of an electric generator. Either ram air or air from the plane's jet engine compressors is directed at the turbine wheel and after driving the generator, becomes so cool that it can be used for air conditioning. In addition, the air is forced between the main rotating parts to serve as a lubricant in place of grease or oil.

For future aircraft whose speeds will generate temperatures of over 600 degrees Fahrenheit, the turbonator, developed by General Electric, will provide a power generator which needs no outside cooling source. The test model weighs only ninety-six pounds, but can produce 40,000 watts of 400-cycle current, enough for more than one hundred average houses.

New Eyes for Hustler

Fairchild Camera and Instrument Corp. has designed a unique pod-contained photo-reconnaissance system for the Air Force's Convair RB-58 Hustler. The cameras, all new designs built to function at supersonic speeds, can be installed in the pod in either of two arrangements, the Hi-Lo altitude or the Low altitude, depending on mission and flight plan. Closed circuit television with a telephoto lens provides the photo-navigator with an unobstructed view of the terrain ahead in enough detail to identify targets and landmarks. The overall weight of the new system is thirty-seven per cent less than that of the nearest equivalent present-day system, 998.4 pounds as compared to 1,584 pounds; the cubic content is reduced from 114 to 65 cubic feet.

Giant forklift dwarfs its operator

Facile Fingers for Forklifts

A giant forklift which can lift twenty-two-ton loads has been perfected by R. G. LeTourneau, Inc. The first unit delivered is being used to handle redwood logs. It is equipped with a fork and with giant, jointed "tusks" which function like powerful steel fingers and lend added efficiency and precision in the delicate handling of heavy loads. The machine has all-electric power, there are no mechanical drive mechanisms, but high torque motors spotted over it furnish geared power directly at the points where it is needed.

New Sikorsky Helicopter

A new utility helicopter, the S-62, combining turbine power and time-proven helicopter

components, is being built by Sikorsky Aircraft and is scheduled for its first flight in the spring of 1958. The aircraft will have components identical to those which have accumulated more than 1,000,000 flight hours on well over 1,000 S-55 helicopters. S-55 rotor blades, rotor heads, gear boxes, shafting, rotor pylons and flight control and hydraulic equipment will be incorporated in the S-62. By using S-55 parts Sikorsky can offer the advantages of existing production and will be able to provide spare parts and service facilities immediately. It will be powered by a single General Electric T-58 gas turbine engine and will feature water landing and take-off capabilities, increased cabin space and greater payload.

Another advantage will be instantaneous flight capability, as the T-58 requires no warm-up time. The bottom of the S-62 fuselage is entirely watertight and strengthened to permit landings on either water or snow. For land operation, main wheels, which can be partially retracted while in flight, are mounted under two floats. Located forward and well away from the fuselage, the floats will combat pitching and rolling during landings and while at rest on the water. A clear view of the landing area will be available through improved forward and downward cockpit vision.

Equipment which can be easily installed includes a 600-pound capacity rescue hoist, an external cargo sling capable of carrying 3,000 pounds, internal ferry tanks and an adaptation of the S-55 winterization kit tested at minus 65 degrees. A towing attachment to provide 4,000 pounds of pull can be added to the helicopter for such missions as the removal of damaged aircraft from runways or for assisting vehicles which have become mired.

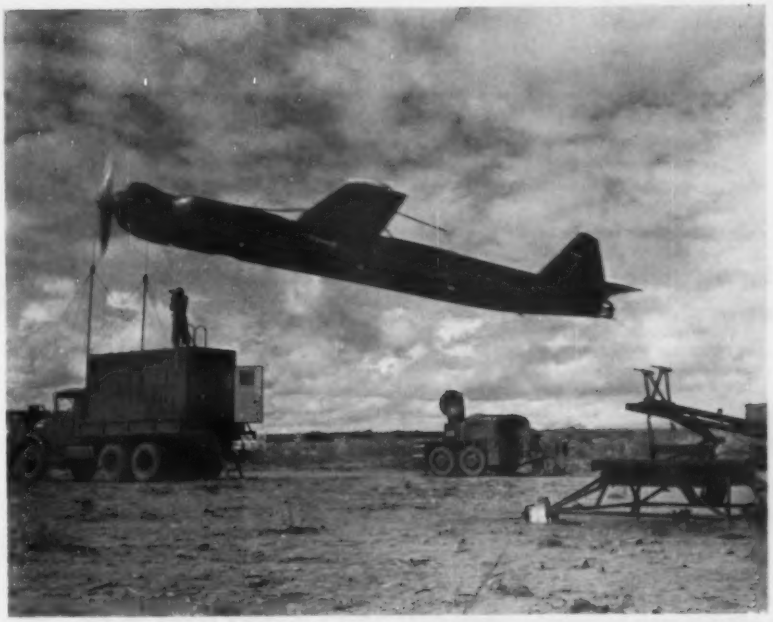
The S-62 will possess unequalled hovering ability at high altitudes, full power being available up to 17,000 feet. The empty weight of the S-62 will be 700 pounds lighter than the S-55 and, with the T-58 engine, will have 230 more horsepower available for high altitude or hot weather flight. The result of this combination will be a payload under all conditions approximately 700 pounds greater than that of the S-55.

Nose Cone Answer?

A new laminated, heat-resistant material comes from H. I. Thompson Fiberglas Co. Called Astrolite, it is a reinforced plastic with laminations of near pure silica "Refrasil" fibers in combination with a high-temperature phenolic resin binder. The material has been proposed for use in the liners of rocket engines and nozzles, and for ballistic nose cones.

H-23-D In Civvies

After a program of intensive testing, the Civil Aeronautics Administration has awarded its certificate of approval to the Hiller UH-12-D helicopter, which is the commercial version of the Army's H-23-D. The three-place helicopter is notable for its low operating cost, designed to Army order for a minimum of 1,000 hours of flight between major overhauls.



The RD-71 drone (above) carries the new KA-28 night surveillance camera (right)

All-purpose Jet Transport

The Lockheed Jetstar, 600-mile-per-hour jet utility trainer-transport, has "exceeded expectations" in extensive company tests. The ten-passenger plane, which will be delivered to Edwards Air Force Base for evaluation testing, was claimed by Lockheed to be capable of seven different military uses. The seven roles are as follows: high-priority personnel transport, high-priority cargo transport (4,000-pound freight capacity), high-priority medical evaluation transport (two attendants with four stretcher cases or nine ambulatory cases), airways inspection plane, photographic and mapping plane, navigator-bombardier trainer, and electronic countermeasures trainer.

Remote Control Night Surveillance

A new aerial photo-reconnaissance system which will give combat commanders accurate information of enemy areas and activities at night has been developed by the U. S. Army Signal Corps and the Fairchild Camera and Instrument Corp. The system uses a small, rugged, lightweight aerial reconnaissance camera, the KA-28, in a pilotless drone plane. The camera automatically provides its own illumination by activating a series of fourteen flash cartridges mounted seven to each side of the drone plane's fuselage. It has no shutter as such, but, synchronized with the flashes, takes a series of pictures which overlap each other on a continuously moving roll of film. The KA-28 has controls for image motion compensation, takes a picture 4.5 inches square, and weighs seventeen pounds. A single twenty-eight-volt DC battery system operates both the flash-cartridge ejectors and the camera.

Seek Better Battle Intelligence

The Department of the Army has awarded the Cornell Aeronautical Laboratory, Buffalo, N. Y., a two-year contract to investigate ways and means of improving battlefield intelligence. The immediate aim is to augment or extend the existing systems of battlefield surveillance by radar, infrared, sonic, meteorological, drone reconnaissance, photographic and televisual methods. Commanders of the future must be able almost instantaneously to scan a large battle area, for guided missile targets may exist for only a short time at distances of hundreds of miles.

THE MONTH'S BOOKS

Sir Winston as Strategist

WINSTON CHURCHILL AND THE SECOND FRONT, 1940-1943
By Trumbull Higgins
Oxford University Press, 1957
281 Pages; Illustrated; Maps; Index; $6.00

Reviewed by

JAMES E. KING, JR., *Research Associate at the Washington Center of Foreign Policy (affiliated with The School of Advanced International Studies of The Johns Hopkins University).*

Trumbull Higgins, Assistant Professor of History at Hofstra College, says that a historian must be not only a judge, but a "hanging judge" as well. The phrase is Acton's, but Higgins adds, on his own account, "The tendency to accept as correct whatever was done in a victorious war must be particularly resisted in military history." He describes his book frankly as "an attempt to go further than simply to create a synthesis which includes only realized plans or actual coalition strategy; it is particularly an effort to consider what did not happen." The reader, whether he agrees or not in all particulars, must grant that the book fulfills the bold promise of its preface. The grand strategies of World War II, on both sides and in all corners (though with particular devotion to those of the British Prime Minister), are surgically dissected, following the procedures laid down by Clausewitz.

The author concludes that "the strategic conflict between Great Britain and the United States over a second front to aid Russia was an important cause of the emergence of the Soviet Union as the real victor of the Second World War." Though other strategists made mistakes, Churchill is the principal villain. But it was not the villainy of which Stalin charged him: that he deliberately withheld effective aid to the USSR so that Russians and Germans would bleed each other white. While Higgins remarks upon the persistence of the question in American as well as British circles, of whether Russia could survive German assaults (for example, he quotes Eisenhower as saying in 1942, that the invasion of French North Africa was strategically justified *only* on the assumption that the USSR was near collapse) he accounts for Churchill's Mediterranean designs on other grounds, political and personal.

There was first the awful shadow of Passchendaele and the Somme, and hence Churchill's conviction that the British people would not stand for a repetition of the slaughter of World War I. Thus, a direct ground-force assault upon the center of German power, which was the desire of the U. S. Army and what Clausewitz would have prescribed, was to Churchill politically impossible—except as a mopping-up operation *after* German power had been broken. Until then British strategies must be in various senses indirect, involving mainly exploitation of air and sea power to avoid the casualties of massive ground combat. Higgins notes Churchill's success on this score: 264,000 British military dead during 1939-45 as compared with World War I's "whole generation" of 744,000, despite the later war's vaster scope and danger.

But of equal importance, and of more interest, are the personal grounds assigned. Churchill, the author would have us recognize, felt a deep personal repugnance for the direct and absolute philosophy of war. His preference, called "Anglican" or "Conservative" in contrast to the "Calvinism" of the moral proponents of total war from Cromwell on, or the "grimly predetermined warfare of the political Left," was for a strategy of attrition that dictated essentially defensive moves, at least as regards ground warfare, so long as the enemy was strong, while seeking to whittle his strength by opportunist peripheral attacks. Thus the Mediterranean design, though prudently intended to secure the British defensive position against the threat of a Russian collapse, was also aimed at Italy as the weaker enemy, while other peripheral operations, actual or proposed, were intended to cause the principal enemy to dissipate his strength by attacking where he was weakest.

To all this the U. S. Army's reaction was to maintain the validity of the classic principle of strategic concentration. Churchill won the contest of strategies in 1942 because of what General Marshall subsequently described as "the political necessity of action." The President, too, had his political problem: He could not see the American people waiting until our forces were ready—and the British were persuaded—to assault the Continent. But, says Higgins, the price of Churchill's victory was high. First, the most fundamental of all the strategic decisions of the war—the priority of the combined effort against Germany—was vitiated: "Between the late spring of 1940 and the surrender of Italy in September, 1943, the bulk of Great Britain's fighting strength on land was engaged chiefly against the Italians. Until the summer of 1944 the majority of American divisions actually in combat were actually waging war against Japan." Second, the growing American suspicion of Churchill's motives, which Roosevelt eventually came to share, resulted in such a loss of mutual confidence that as the end approached, and Churchill found himself at last on Clausewitz's side with a plea for consideration of the political consequences of military action, the U. S. Army turned its back on Clausewitz to concentrate on "the single aim of speeding victory." It was General Marshall who said, as regards the proposal that the Western allies should take Berlin, "I would be loath to hazard American lives for purely political purposes." On this point Professor Higgins remarks, "But however he might wish to limit Great Britain's casualties, Winston Churchill was an old hand at accepting the struggle for political power endemic in war."

The author's case, though somewhat halting in the sections on Hitler's strategy and Franco's vacillations, gains in clarity and conviction. His documentation is mountainous and his meticulous use of his authorities commands respect. Much, indeed, is crammed into so brief a treatise. The questions it raises may never be answered; its conclusions will certainly not be accepted by many students of the events recounted, not to say by actors in them. But he exercises his critical judgments with integrity, and his insights merit thoughtful attention from those who still believe that history has lessons to teach.

Military-Foreign Policy

AMERICAN MILITARY POLICY: Strategic Aspects of World Political Geography
By Edgar S. Furniss, Jr.
Rinehart & Company, 1957
494 Pages; Index; $6.50

Reviewed by

MAJOR THEODORE WYCKOFF, Artillery, *who completed graduate study at Princeton University in 1957 and is now on duty in the Pentagon.*

One of the emerging facts of life in

this day of cold war and total war and of world-girdling missiles and ideologies, is that yesterday's simple distinction between the problems of war and the problems of peace is no longer valid. Where the military commander of an earlier day had the relatively simple task of fighting a war and leaving the problems of peace to the diplomat and the statesman, today's military man must plan for worldwide operations, where victory or defeat may come without a shot, where diplomats must engage in political maneuvers involving the most skilled *military* judgment.

This is merely to say that while the diplomat and the military commander use ostensibly different techniques, both have exactly the same objective: to persuade the decision-makers of other countries to act in a way consonant with American foreign policy. The mission of U. S. military policy is to support our foreign policy, but the primary objective of our foreign policy is to provide for the national defense.

It was precisely this interdependence of diplomatic and military techniques and objectives which the framers of the National Defense Act of 1947 had in mind when they designed a National Security Council that includes the Secretaries of State and Defense, and when they included State Department officers in the student body and faculty of the National War College.

For the military man, this book opens the door to a most fruitful discussion of this only recently recognized fact of life. Professor Furniss covers the essentials of a graduate seminar in "Nuclear Weapons, Military Doctrine, and U. S. Foreign Policy" he has conducted at Princeton University since early 1956, and which this reviewer attended. The book is an edited compilation of some of the more constructive contributions of several of today's deepest thinkers on this tremendously important subject. No one person today could presume to possess the whole solution to the problems posed by U. S.-Soviet competition across an atomic gulf. It is a worthwhile work, a most valuable introduction to a newly important aspect of any professional military man's career.

Professor Furniss does not claim that there is any such thing as one accepted and approved, final and immutable "American military policy." The fact that no such thing exists is one of the main reasons the book was written. Professor Furniss demonstrates ably that there are different schools of thought, even among the clearest thinkers, as to what our military policy should be. The valuable service he renders is to explore much untrodden ground in this new field, and to establish by implication several hypotheses which subsequent thinkers must examine and refine or reject. He does not exhaust the implications of the subject by any means. A most important factor in any discussion of foreign and military policy is the economic capability of the nation to support a given course of action; thus, military and foreign-aid budgets and the study of the effectiveness per dollar invested of alternative policies are areas of interest on which he touches only peripherally. Likewise, the role of the information services—propaganda, public information, psychological warfare, intelligence, and education and research—is a field that will merit mention in any future study such as this. As exploration of the subject is pushed farther, more facets of the study, whose importance is now not recognized, will undoubtedly come to the fore.

This is a continuing study, and the challenge to military thinkers which it poses is that military doctrine, if it is to succeed, must stay abreast of the lightning speed with which new technological frontiers are being reached and passed.

Objective Analysis of NGUS

SOLDIERS OF THE STATES
By William H. Riker
Public Affairs Press, 1957
129 Pages; $3.25

Reviewed by
COL. ELBRIDGE COLBY, *USA, Retired, who once headed a branch in the National Guard Bureau, and has written a book on the history of the National Guard.*

Though tremendously important, the general subject of the militia and the National Guard has long suffered from the lack of extended serious study and historical exposition as a part of the governmental life of the United States. Except in time of war, and except for these very few recent years, the organized militia constantly was a very major numerical part of our land forces. There have been histories of regiments, and of the National Guard of certain states, but no substantial published work in the form of an institutional history. Indeed, for many years, most historians took their cues on this topic from Upton's famous work on U. S. military policy, which showed steady prejudice against the citizen soldier; and they and many commentators confused the initial, compulsory-service militia with the more modern volunteer National Guard.

This book is therefore welcome, even though it is less history than a commentary on history by a professor and scholar in political science. It is too slight a book to fill the great gap, but it is an important one nevertheless, and should clear up many clouds in previously uninformed minds. It is not a Guardsman's partisan hurrah sort of thing, nor a diatribe against distrusted Regulars. It is an attempt at objective analysis of facts and events, and is principally concerned with the National Guard (and the early militia) as offsets to excessive federalism in the structure of our government—all the way from Constitutional conventions to the modern centralization tendency with federal financial aids being exchanged for creeping controls. It succeeds, and readably.

It is too small a book; so small that it has deliberately had to omit consideration of the entirely basic legal problems involved, which fifteen years ago were subjects of long articles in the Harvard and the Virginia law reviews. It has had to avoid any recording, however brief, of some of the real and major achievements of the Guard and the people in it. It has had to condense and slur over the vital victory of the Guardsmen over Elihu Root and his Volunteer Army substitute of 1903. It has had to omit the difficulties with militia in the Southern States in the late 1860s. But it has well hewed to its line, by statistics and events and Congressional arguments. It pays tribute to the always considerable political strength of the National Guard, and its weakest conclusion perhaps is its closing prediction that now, with greater federal control and more federal funds, and proportionately lesser (although numerically greater) current strength of its own, it is declining in popular favor and prestige.

Because of lack of data, too many professional Regulars have talked about the Guard without knowing enough about it and its position in our life. This book removes any valid excuse for such ignorance.

First Rhine Crossing

THE BRIDGE AT REMAGEN
By Ken Hechler
Ballantine Books, 1957
238 Pages; Illustrated; Maps; Paper, $.50; Cloth, $4.50

Reviewed by
COL. THOMAS H. HAYES, *now on duty in the Pentagon, who, as commander of the 310th Infantry, crossed the Bridge on the morning of 8 March 1945.*

Anyone who has participated in a dramatic and complex combat operation inevitably has wondered from time to time: What *really* happened? Why do other witnesses' accounts, and sometimes official records, differ from our own recollections? And most inexplicable of all, why did the enemy act as he did?

Ken Hechler was there, as combat historian, and has had an almost unique opportunity to research the surprise crossing of the Rhine River on 7 March 1945. His story rings true because it comes from actual participants: the soldiers of the 9th Armored and 78th Infantry Divisions and other U. S. early

Selected Check List of the Month's Books

This run-down of some of the books received for review during the month preceding our deadline is to give our readers who like to follow current literature a monthly check list of the most important, useful and potentially popular books. Full reviews of some of these books may appear in this or subsequent issues. Any of these titles may be purchased through the Combat Forces Book Service. See page 71 for order coupon and a complete listing of Selected Books for Military Readers.

AUSTRALIA IN THE WAR OF 1939-1945: The Japanese Thrust. By Lionel Wigmore. 715 Pages; Illustrated; Maps; Index; 30*s*. The Japanese plan of conquest and its step-by-step execution, as well as reactions of Allied governments and what they did to stem the onslaught. Air War Against Japan, Vol. II, 1943-45. By George Odgers. 533 Pages; Illustrated; Maps; Index; 25*s*. Operations and problems of the RAAF when the Allies had air superiority. Japanese reactions are told with the help of enemy records. Angus & Robertson, Ltd., 1957.

BRASSEY'S ANNUAL: The Armed Forces Year-Book, 1957. Edited by Rear Adm. H. G. Thursfield. The Macmillan Company, 1957. 451 Pages; Illustrated; Maps; Index; $9.50. The standard yearly reference. Though dealing primarily with defense policy, strategy and armed forces from the British viewpoint, it is interesting for U. S. readers.

FROM SUMTER TO SHILOH. Thomas Yoseloff, 1957. 750 Pages; Illustrated; Maps; $4.95. Volume I of a new, *popular edition* of *Battles and Leaders*, which this publisher revived. (For review see ARMY, January, 1957.) The standard four-volume B&L set costs $30.

LIFELINE IN THE SKY. By Clayton Knight. William Morrow & Company, 1957. 264 Pages; Illustrated; Maps; Index; $6.00. The story of the U. S. Military Air Transport Service (MATS). The author had the cooperation of USAF on a world-wide tour of MATS bases and installations.

LINCOLN: A Picture Story of His Life. By Stefan Lorant. Harper & Brothers, 1957. 304 Pages; Illustrated; $7.50. A thoroughly revised edition, enlarged by more than a hundred new illustrations. With Lorant's lively, full-scale biography, more than 600 pictures show Lincoln's development as no other book can. Well worth the price.

MISTER LINCOLN'S NAVY. By Richard S. West, Jr. Longmans, Green & Company, 1957. 328 Pages; Illustrated; Maps; Index; $6.50. A forthright history of the Union Navy in the Civil War. The author is Professor of History and English at USNA, and has written five other books on the Navy.

MR. LINCOLN'S WASHINGTON. By Stanley Kimmel. Coward-McCann, 1957. 224 Pages; Illustrated; $7.50. More than 260 striking photographs and sketches, some not published before, that show what Washington looked like during the Civil War. The text is based on contemporary Washington newspaper accounts.

PANZER LEADER. By Gen. Heinz Guderian. Ballantine Books, 1957. 400 Pages; Maps; $.50. An abridged edition of Guderian's memoirs which pares off the fat and leaves only the meat of his writings. Foreword is by Capt. B. H. Liddell Hart. (Reviewed in ARMY for October 1952.)

ROCKET. By Air Chief Marshal Sir Philip Joubert. Philosophical Library, 1957. 190 Pages; Illustrated; Index; $6.00. The story of the rocket, from man's first efforts, through Peenemünde, to the eventual triumph over Germany's missilemen. The author headed the RAF Coastal Command during 1941-43.

ROCKETS AND MISSILES. By Erik Bergaust. G. P. Putnam's Sons, 1957. 48 Pages; Illustrated; $2.00. An up-to-date, picture-and-caption story, with statistics and characteristics, of all our missiles, by the editor of *Missiles and Rockets*. A valuable reference work.

STONEWALL JACKSON. By Allen Tate. University of Michigan Press, 1957. 322 Pages; Maps; $1.65. A paper-cover reissue of an outline biography first published in 1928. Narrates Jackson's military genius, his eccentricities, his religious zeal, his brilliance in battle.

THIS WAS ANDERSONVILLE. By John McElroy; edited by Roy Meredith. McDowell, Obolensky, 1957. 355 Pages; Illustrated; $12.50. By a former journalist who was in Andersonville's first POW contingent and who survived to tell his story in outspoken words. A beautiful job of bookmaking, with pen-and-ink sketches by Arthur C. Butts, IV, and 25 pages of rare photos, more than half of them published for the first time.

U. S. CAMERA 1958. Edited by Tom Maloney. Duell, Sloan & Pearce, 1957. 302 Pages; $8.50. The annual volume of *U. S. Camera* magazine, and includes the work of the world's leading photographers. This one has a fine section on rockets and missiles, and another on the revolt in Hungary.

THE WINTER OF THE BOMBS. By Constantine FitzGibbon. W. W. Norton & Company, 1957. 271 Pages; Illustrated; Maps; $3.95. The story of the bombing of London, drawn largely from people who underwent it. A fine job of reporting, by the author of *Twenty July*, the account of the revolt by the German generals.

AROUND THE WORLD IN 90 MINUTES. By David O. Woodbury. Harcourt, Brace & Company, 1958. 248 Pages; Illustrated; Index; $5.75. **THE MAKING OF A MOON.** By Arthur C. Clarke. Harper & Brothers, 1958. 205 Pages; Illustrated; Index; $3.50. **MAN-MADE MOONS.** By Irving Adler. The John Day Company, 1958. 128 Pages; Illustrated; Index; $2.95. Three well-done books on man-made moons, including the Sputniki, and what man hopes to learn from them.

crossers. It comes also from the German defending garrison, from the townspeople of Remagen and Erpel (on the far side), and from the higher commanders on both sides.

At times the author digresses into trivialities, presumably to add human interest where in fact it already exists. At other times, he leaves provocative thoughts undeveloped, as for example: What happened after our tanks, firing from Remagen, hit the engine of a German troop train across the river?

In general, however, the reading is a rewarding experience. The stark situation which confronted those few Americans who were to be first across the span is well depicted. Even better is the account of the elaborate precautions and confused efforts made by the Germans to keep their watch on the Rhine. This aspect, the enemy view, is the book's strongest feature. Sympathy and admiration are aroused for those few loyal defenders who tried to halt the inevitable, despite the trickery of fate and the madness of Hitler.

The Bridge at Remagen is interesting and valuable, not only to those who made the crossing, but to anyone who enjoys living an adventure vicariously and who would care to mentally test his own mettle, as to what actions he would take in a series of tough situations.

Photographic Hide-and-Seek

AIR SPY: The Story of Photo Intelligence in World War II
By Constance Babington-Smith
Harper & Brothers, 1957
259 Pages; Illustrated; Index; $4.00

Reviewed by
COL. HAROLD D. KEHM, *USA, Retired, who has been instructor at The Artillery School, Assistant Commandant of The Strategic Intelligence School, and G2 of Ninth Army.*

The interesting title and the fact that the author was an outstanding photo interpreter in World War II lead to great expectations from this book. These are better fulfilled for the general reader rather than for one with a professional interest in the subject. The book is a lively description of the World War II development of British aerial photography and photo interpretation for strategic purposes. It touches only lightly on U. S. efforts and accomplishments. It does not cover techniques and only by implication draws lessons on doctrine, organization and procedures for applying this art to military purposes. The author ventures neither comment nor prediction on its role in the atomic and electronic age.

The book loses much by its many statements and implications that senior military authorities failed to appreciate the art's capabilities, and that only the

persistence of the specialists finally forced light into the darkness of ignorance and narrowmindedness. This accusation is a cross which the professional military man must frequently bear and a shining sword which the specialist all too often wields with the abandon born of misconception. To the extent—and it is limited—that she tars the U. S. military with this brush, the author is mistaken. The military interest in air photos before World War II is too well known to require defense. The services did as much as could be done with limited resources and facilities. U. S. artillerymen, for example, were most active in applying air photos in tactical and gunnery exercises.

Despite deficiencies, the book is well worth reading. The author is a professional writer who tells lucidly the stories of many of the most thrilling events of the war, including the watch on the German build-up for an invasion of Britain; the location of *Bismarck* and *Tirpitz*; photographing the Italian fleet at Taranto; discovery of the V-1 sites, and uncovering the German method of launching V-2s without using massive storage and firing sites. These stories hold your attention. If you were there, they will tickle your memories.

How Not to Lead an Army

DRAMA ON THE RAPPAHANNOCK: The Fredericksburg Campaign
By Maj. Gen. Edward J. Stackpole
Military Service Publishing Company, 1957
297 Pages; Illustrated; Maps; Index; $4.75

Reviewed by
BRIG. GEN. DONALD ARMSTRONG, *USA, Retired, former Contributing Editor to* ARMY, *who has written many articles and reviews.*

Ambrose E. Burnside attained immortality of a sort by reason of his peculiar side whiskers which added a new word to our dictionaries. He also gave his name to a bridge across Antietam Creek where his prolonged delay enraged even the sluggish McClellan and prevented that battle from being a decisive defeat of Lee's army. He was lucky that after Fredericksburg his name was not applied as Operation Burnside to any offensive where at least seven of the nine principles of war were violated and where indecision and poor planning caused the unnecessary slaughter of thousands of men.

No one studies the campaign of Fredericksburg for pointers on the conduct of war, but few military operations in history can be more helpful in showing how *not* to lead an army and fight it on the battlefield. And the great value of General Stackpole's story of the campaign and battle of Fredericksburg is his competent critique of the errors in the art of the general which marked Burnside's handling of the Army of the Potomac. Certainly it is the best and most complete account of the entire campaign that I have been able to find, and it should be welcomed as filling a need in our vast Civil War library.

Fredericksburg is a fine example of cause and effect which General Stackpole exploits effectively by summarizing the earlier Virginia and Maryland campaigns. He realizes that the campaign he analyzes cannot be considered out of context, for many aspects of Burnside's decisions and actions stem from what preceded his stewardship.

This study shows that Burnside was too small for his breeches. He didn't want the promotion to command the Army of the Potomac. He realized his incompetence and one cannot help feeling a deep sympathy for him in reading his official report on the battle where he wrote: "I am quite willing to believe that my removal was for the best."

Much of the evidence in the case of Burnside versus History in those fateful days of December 1862 comes from the General's own orders for the attack and from his communications to Washington and to his subordinates as well as from the actual events. Fortunately, General Stackpole includes much relevant documentary evidence which discloses the mind and character of the unfortunate protagonist of the Fredericksburg tragedy. He likewise excels in setting the stage for the drama. Few military historians have been at greater pains to show the influence of geography and terrain on campaigns and battles. General Stackpole warns us to beware of observing today's Virginia roads and rivers and forgetting that both looked very different in the 1860s. His detailed descriptions of the Virginia theater of operations and the Fredericksburg battlefield are supplemented by the lavish use of contemporary photographs and sketches, and of operations maps which, in spite of rather unsatisfactory reproduction in some cases, facilitate the ready and enjoyable understanding of Burnside's disastrous venture in high command.

Missile Hardware

GUIDED WEAPONS
By Eric Burgess
The Macmillan Company, 1957
255 Pages; Illustrated; Index; $5.00

Reviewed by
MAJOR PATRICK W. POWERS, Artillery, *who has written several articles on guided missiles for* ARMY, *and is now attending the Command and General Staff College.*

Here is a bold attempt to survey the entire spectrum of missiles from the earliest German versions down to the complicated systems now being developed. This British author takes a catalog approach to the problem, and the result is an amazing compilation of statistics, characteristics and descriptions of missile hardware with emphasis on World War II German types and early U. S. and British development projects. The very complete and excellent documentation of these now historic missiles and rockets is one of the book's outstanding features.

The fundamentals of missiles, to include propulsion and guidance, are treated with numerous examples, but often inadequate explanations of actual system functioning. The basic categories of missiles of the surface-to-air, air-launched, and surface-to-surface types are discussed with many of the current systems described somewhat inaccurately. The chapter "Testing and Test Facilities" is unusually interesting and emphasizes the extraordinary testing and preparation for each missile firing and how the results are recorded and analyzed. The American reader has trouble with the translations from British to our terminology, like "valve" for vacuum tube, and the repeated conversions of the metric system to match the foot and the pound.

It is extremely difficult to make a quick and accurate survey of *all* the most recent guided-missile systems and to present the material in a well-organized and palatable manner for the layman. Mr. Burgess has not quite fulfilled this part of his stated task.

Use of Force by UN

A UNITED NATIONS PEACE FORCE
By William R. Frye
Oceana Publications, 1957
227 Pages; Illustrated; Index; Paper $1.00; Cloth $3.75

Reviewed by
COL. CHARLES A. H. THOMSON, MI, *USAR, who is on the staff of the Brookings Institution in Washington, D. C.*

The United Nations Emergency Force, says William R. Frye (UN correspondent for the *Christian Science Monitor*) was an accident of history, created so fast its parents could scarcely recognize it, sent out to do a man's job while still an infant, uncertain of rations, clothing, and staying alive. But it was a success —at least to the point where many people ask whether it should not be made permanent. Some kind of international force, created to keep the peace and at the disposition of an international authority, has long been dreamed of by politico-military utopians. But this is one of the first actually to come alive, and to do its job. What were the conditions of its success? How likely is it that such a force could be kept in readiness to do jobs worth doing in a world of atomic warheads and intercontinental missiles?

These questions the Carnegie Endowment for International Peace commissioned Frye to answer on a crash basis,

to be ready for the twelfth session of the UN. Helped by a distinguished advisory committee and some sharp staff papers (several are reproduced as appendixes), Frye met his deadline. He did a good job.

First he sets forth a journalist's rapid account of the political conditions leading to creation of the force, its leap from drawing board to operating force in eight days, its take-over in Egypt, beating out the Soviet "volunteers," its problems as a force in the desert, without an adequate Special Services branch or USO leading to a natural practice of fraternizing with Israeli Wacs.

Then Frye speculates on whether Suez would have happened if the UN force had been in being; on what might have happened in Hungary, Kashmir, Algeria, and elsewhere.

The real limitation on the usefulness of a UN force, says Frye, is the reluctance of many world powers really to engage in peacemaking. National interests and concepts of justice take precedence over world opinion—whatever that is. And in Israel as in other areas, cynical Soviet opportunism and Soviet policy have tied the hands of the peacemakers. The Soviet terms for peace in the Middle East are total withdrawal of Western military influence and a free field for the growth of Soviet influence.

Frye concludes that a UN police force would be no panacea for the ills of the mid-twentieth century, although it would be one more useful tool in the hands of the peacemakers. But its usefulness would be largely limited to its political effectiveness. The kind of force now at the UN's disposal—or one that could be organized for it—would be fit only to shoot at individuals or small marauding gangs. The UN armband, symbol of world conscience and world opinion, is the essence of its influence.

This book only briefly sketches the military problems encountered, most of them logistical. It is, however, more helpful in showing, by shrewd questions, the tremendous variety and difficulty of the political problems involved.

The several staff papers sharpen and clarify Frye's discussion. Colonels Cannon and Jordan of West Point deal briefly with problems of military organization. Charles Noyes examines the problems of consent. Other papers sketch efforts to establish an international police force down to 1950; compare a United Nations "guard" with a UN "legion"; and estimate the usefulness of UN forces in resolving past crises.

Most valuable is Paul Nitze's paper estimating where and under what circumstances a UN force might be useful in the future. Most cogent argument advanced: the actual use of a powerful deterrent force by the U. S. would be disastrous both for the United States and for the rest of humanity. Therefore it is no real alternative to a UN military force. And, since a UN force might work with better political effects than a U. S. force in limited war, the U. S. should be able to seek justice through a UN force as well as by committing its own (with or without allies). Technological developments increase the risk that any limited war might turn into full-scale atomic war. Realization of that risk may itself bring about world acceptance of the political consensus that must exist before any UN force could be really effective.

Whether this argument will carry weight, and lead to the establishment of effective forces at the UN's disposal, only history will tell. Meanwhile, any staff officer who must deal with the politico-military problems of setting up or using such a force would do well to study Frye's book.

Semantics of Communism

A GUIDE TO COMMUNIST JARGON
By R. N. Carew Hunt
The Macmillan Company, 1957
169 Pages; Index; $3.50

Reviewed by
ROBERT N. WALKER, *Ph.D., Consultant to the Office of Special Warfare, Department of the Army.*

In *A Guide to Communist Jargon,* Mr. Hunt deals with the new political vocabulary to which Marxism-Leninism gave rise and which was reinterpreted by Stalin. From his long experience as a student of Communist concepts and techniques, he defines and discusses fifty important terms—such as *bourgeoisie, dialectic, purge, imperialism, people's democracy*—used by Communists to express much of their ideology. The book thus serves as a guide to the vast amount of news and printed matter now emanating from the Soviet Union and her satellites.

Not only are the fifty terms defined in their Orwellian "double-think" context —they are also interpreted in Western-language semantic meanings for the reader who has not been indoctrinated in the peculiarities of Communist word connotations. The amazing twists of meaning with which the Reds are able to invest a simple word are well known. But what most of us do not know is the derivation of these meanings, and how the twists, turns, and opposites were achieved; the etymology of common English words bears little or no resemblance to the perversion of these words to serve the Reds' battle for the mind.

One of the terms which has been flogged unmercifully is *imperialism,* which has been substituted for *capitalism* in the Communist vocabulary. Since K-B made their triumphant Asian tour in 1955 with full complement of peace doves, *imperialism* has been made synonymous with *colonialism.* With characteristic mendacity, the United States has now been libelled the supreme *imperialist* and, hence, *colonial* power. Our founding fathers, particularly Jefferson and Monroe, would indeed marvel at how their writings and political philosophy could be paradoxically inverted so that the political system they founded would now be charged with being diametric to what they, in fact, designed and gave to mankind.

Mr. Hunt's book fills a timely need, in that the reader is given a glossary of terms which will enable him to identify, to understand, and hence to arm himself against the most insidious penetration of all—the subtle meanings with which Communists invest harmless everyday words in the propaganda by which they seek to conquer the world—not by force, but by ideas. This book is a useful weapon against Communist ideology. The pen is still mightier than the sword.

THE MONTH'S CEREBRATIONS

(Continued from page 43)

uation. To solve that problem, I propose we do one or more of these things:

¶ Establish training units in college towns. These are allowed by regulation but we are hindered by the fact that participants get no pay for such reserve duty training, and by the 120-day limitation on departure for active-duty training.

¶ Establish a maximum proportion (I would say about twenty-five per cent) of unit strength which may be students who are without prior service.

¶ Allow each college town unit to take in no-prior-service students as overstrength up to about twenty-five per cent.

Such a plan would give us a chance to supplement the ROTC program in college towns. The Army Reserve would get more really high-caliber young men started out in "the Army way" who in a few years will be scattered all over the land, many to become leading and influential citizens in their communities. When they do scatter, let's be sure they will want to continue as active reservists and be Army rooters. But to do all this someone must call a different signal.

Col. W. B. Means, Infantry *(USMA 1935), is Senior Army Advisor, USA Military District, Oklahoma. He commanded the 390th Infantry during the last months of World War II, and has been an instructor at the USA Infantry School.*

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The Association of the U. S. Army shall be an organization wherein all who are in accord with its objectives may join in the exchange of ideas and information on military matters, and in fostering, supporting, and advocating the legitimate and proper role of the Army of the United States and of all its elements, branches, and components in providing for and assuring the Nation's military security.

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AUSA REGIONAL ACTIVITIES

CHAPTERS

ALAMO CHAPTER—P.O. Box 11401, San Antonio 8, Texas. *President:* Lt. Col. Reagan Houston, III, USAR; *First Vice President:* Gen. William H. Simpson, USA-Rtd.; *Second Vice President:* Col. J. Hamilton Savage, Jr., USAR; *Third Vice President:* Col. John W. Beretta, USAR; *Judge Advocate:* Col. C. E. Brand, USA-Rtd.; *Chaplain:* Maj. David M. Reardon; *Secretary:* Capt. Badger V. Upton; *Treasurer:* Col. E. C. Peters.

Chapter officers held a luncheon meeting 12 December to prepare plans for a general membership drive, to be headed by Gen. William H. Simpson, USA-Rtd. More than 1,400 letters to retired personnel will be sent; Col. J. Hamilton Savage, Jr., USAR, will head a drive for Reserve and civilian members.

FRANKFURT CHAPTER—*Secretary:* Capt. Robert M. Dwinell, Hq 4th Armor Group, APO 757, New York, N.Y. *President:* Col. Melvin M. Kernan; *First Vice President:* Col. Clarence E. Read; *Second Vice President:* Col. Austin J. Montgomery; *Treasurer:* Maj. Robert J. Fair.

At installation ceremony, 18 December, Lt. Gen. Francis W. Farrell presented the charter to Colonel Kernan. Maj. Gen. Paul D. Adams, Honorary Vice President, spoke on the aims and purposes of AUSA. A film, "The Challenge of Outer Space," was shown. Attendance was 350.

HEIDELBERG CHAPTER—Hq USAREUR, APO 403, New York, New York. *President:* Major Gen. G. E. Martin; *First Vice President:* Col. K. E. Adamson; *Second Vice President:* Col. S. E. Otto; *Secretary:* Maj. A. L. Shoaff; *Treasurer:* Major W. H. Brandenburg.

Maj. Gen. Clark L. Ruffner, Chief, MAAG, West Germany, was principal speaker at Heidelberg Chapter's 17 December meeting. General Ruffner's subject was "Germany's Build-up of Her Armed Forces."

KELLEY BARRACKS CHAPTER—Attn: SGS, APO 107, New York, N. Y. *President:* Col. J. K. Boles; *First Vice President:* Lt. Col. J. T. Joseph; *Second Vice President:* MSgt E. M. Kirlin; *Secretary:* Col. L. G. Robinson; *Treasurer:* Capt. H. J. Korstange.

The 9 December meeting was held at the Enlisted Men's Club. Guest speaker was MSgt N. H. Ellis, who attended AUSA's 1957 Annual Meeting. Sergeant Ellis's speech was well received by an audience of over 150, including Brig. Gen. Edgar T. Conley, Jr., Mr. Allan Moreland, U. S. Consul General at Stuttgart, and Mr. Marcus Hoover, Land Relations Officer at Baden Würtemberg. Sergeant Ellis expressed gratification at the large enlisted representation at the meeting. Lt. Gen. John F. Uncles was appointed Honorary President of the Chapter.

MANNHEIM CHAPTER—*Secretary:* Lt. Col. Edward J. McGrane, c/o Hq 34th AAA Brigade, APO 28, New York, N. Y. *President:* Col. William A. Stricklen; *First Vice President:* Lt. Col. Howard F. Schiltz; *Second Vice President:* Lt. Col. Edward S. Mathes; *Treasurer:* Capt. Henry G. Stoehr.

Geographic Area: The City of Mannheim, Germany (including the following military installations: Coleman Barracks, Funari Barracks, Spinelli Barracks, Sullivan Barracks, Taylor Barracks, Turley Barracks, Benjamin Franklin Village).

Chartered 26 December 1957.

MOTHER LODE CHAPTER—*Secretary-Treasurer:* Lt. Col. William L. Shaw, NGUS, Sacramento Signal Depot, Sacramento, Calif. *President:* Mr. George H. Holt; *First Vice President:* Col. Albert E. Billing, USA-Rtd.; *Second Vice President:* Col. Joseph S. Gorlinski, USA-Rtd.; *Asst. Secretary-Treasurer:* Capt. Robert N. Dempster, USA.

Annual meeting and election of officers, 5 December, resulted in approval of above slate. Principal speaker was Brig. Gen. Wesley Guest, former member of Executive Council, AUSA. Audience viewed film on missiles.

NEW ORLEANS CHAPTER—4400 Daupine St., New Orleans 40, La. *President:* Mr. Wallace M. Davis; *First Vice President:* Col. Donald E. MacDonald; Second Vice President: Brig. Gen. Robert V. Maraist, USA-Rtd.; *Third Vice President:* Mr. Jonas C. Sporl; *Secretary:* Maj. Louis Robillia, Jr., USAR; *Treasurer:* Mr. Newton D. McLean.

A Board of Directors meeting was held 13 December at the Creole Hotel. Representative F. Edward Hebert, 1st Congressional District of Louisiana, introduced Mr. Franklin L. Orth, Deputy Assistant Secretary of the Army, who was the principal speaker. The Board of Directors passed a resolution conveying its "wholehearted and enthusiastic support" to the objectives approved at AUSA's 1957 Annual Meeting, and directed that copies of the Resolution be sent to key people in the military establishment, Congress and others.

NEW YORK CHAPTER—*President:* Lt. Colonel Charles I. Katz, USAR, 250 West 57th Street, New York 19, New York; *First Vice President:* Col. Arthur D. Hirt, USAR; *Second Vice President:* Lt. Col. Pelham St. George Bissell, III, USAR; *Secretary:* Major Emilie L. Berkley, USAR; *Treasurer:* Col. Lloyd W. Stearns, USAR.

New York Chapter has now officially merged with Brooklyn Chapter and General John J. Pershing Chapter (Fort Jay). The New York Chapter name will be used by the combined organization.

NORTHERN DELAWARE CHAPTER—P.O. Box 607, Wilmington 99, Delaware. *President:* Col. Walter L. Tindall, DNG; *First Vice President:* Mr. Henry N. Marsh; *Second Vice President:* MSgt John E. Mastin; *Secretary:* 1st Lt. Donn Devine; *Treasurer:* Lt. Frank M. Gorsuch, III, USAR.

During 1957's worst snowstorm, the first meeting of the Northern Delaware Chapter was addressed by Mr. Franklin L. Orth, Deputy Assistant Secretary of the Army. The 4 December meeting was the only gathering of its type in Wilmington that night that was not cancelled.

REPORT FROM YOUR AUSA CP

The General Electric Company, one of our Sustaining Members, has published a very fine illustrated booklet, *The Dynamic Army*. We are appreciative of this fine publicity.

Our thanks to all of you who sent us cards expressing greetings and best wishes for the past holiday season.

The Committee on Army National Guard Affairs is now in being. Chairman is Maj. Gen. Jim Dan Hill. The Committee on Army Reserve Affairs will probably be in being by the time you receive this issue of ARMY.

Nominations for the Advisory Board of Directors will be accepted until 1 March 1958.

WALTER L. WEIBLE
Lt. Gen., USA, Retd.
Executive Vice President

Attendance was small but enthusiastic. Among the hardy members who attended was Major William M. Chapman, designer of the AUSA seal. Publicity for the meeting was exceptionally good, including a story of how Maj. Gen. Joseph Scannell, Adjutant General of Delaware, attended in dress blues, slipping out every few minutes to direct the employment of National Guard personnel and equipment in combatting the effects of the snow.

NURNBERG AREA CHAPTER—*Secretary:* Capt. Thomas F. Ellzey, Special Activities Division, Hqs USAREUR, APO 245, New York, N. Y.; *Honorary President:* Maj. Gen. Derrill M. Daniel; *President:* Brig. Gen. William F. Ryan; *First Vice President:* Lt. Col. John R. Himmelright; *Second Vice President:* MSgt Raymond J. Kline; *Treasurer:* Lt. Col. William H. Dodge, Rtd.

Lt. Gen. Bruce C. Clarke addressed more than 300 chapter members at the organization's first meeting, 12 December, and presented the charter to Gen. Daniel.

WILLIAM PENN CHAPTER—Bridge and Tacony Streets, Philadelphia 37, Pa. *President:* Dr. William J. Kroeger; *First Vice President:* Mr. Harry F. Devlin; *Second Vice President:* Mr. George S. VanDyke, Jr.; *Secretary:* Mr. Reuben Levine; *Treasurer:* Mr. Kenneth E. Yocum.

Frankford Arsenal Chapter expanded into a Philadelphia area chapter at its meeting of 6 December.

WASHINGTON, D. C. Henry Handler *(left)*, Secretary of the recently formed George Washington Chapter of AUSA (embracing the DC metropolitan area), accepts the local group's charter from Lt. Gen. Walter L. Weible, USA, Ret., AUSA Executive Vice President.

ROTC COMPANIES

CANISIUS COLLEGE COMPANY, Canisius College, Buffalo, New York —*Captain:* Cadet Daniel T. Kirst; *First Lieutenant:* Cadet Thomas R. Block; *Second Lieutenant:* Cadet Joseph S. DePaolo; *First Sergeant:* Cadet Daniel W. Sullivan.

Canisius College Company took 16 teen-age orphans to the Queen City invitational basketball games during Christmas week. The Company has elected Cadet Tula as representative of AUSA to Student Council.

CITADEL COMPANY, The Citadel, Charleston, S. C.—*Captain:* Cadet Ronald Zeltman; *First Lieutenant:* Cadet Eugene Cannon; *Second Lieutenant:* Cadet Jerry Wright; *First Sergeant:* Cadet Art Richards.

Meeting 20 November studied intelligence aspects of Normandy invasion. Cadet members made the presentation.

EDMUND R. WALKER COMPANY, University of Connecticut, Storrs, Conn.—*Captain:* Cadet Francis E. Dion, Jr.; *First Lieutenant:* Cadet Liudas Bajorinas; *Second Lieutenant:* Cadet Howard M. Belinsky; *First Sergeant:* Cadet Edward H. Soderberg.

Edmund R. Walker Company has initiated a historical file. Three cadets have volunteered to construct an AUSA plaque for the ROTC hangar. Captain Rehfeld, Assistant PMST, discussed Pentomic tactics and organization at meeting 9 December.

FLORIDA SOUTHERN COLLEGE COMPANY, Florida Southern College, Lakeland, Florida—*Captain:* Cadet Dale W. Pierce; *First Lieutenant:* Cadet Robert P. Jones; *Second Lieutenant:* Cadet William R. Hatton; *First Sergeant:* Cadet Justus R. Sackett, Jr.

Brig. Gen. Lyal C. Metheny, Chief, U. S. Military District, Florida, addressed the 5 December meeting of the Company on leadership, AUSA, and the advantages of a military career. Seventeen new members were welcomed into the Company. Invited guests included the President of Florida Southern College.

GEORGETOWN UNIVERSITY ROTC COMPANY, Georgetown University, Washington, D. C.—*Captain:* Cadet George F. Landegger; *First Lieutenant:* Cadet John A. Leide; *Second Lieutenant:* Cadet Robert J. Spazzarini; *First Sergeant:* Cadet Joseph J. Kane.

Entire ROTC Regiment attended the Company's first formal meeting on 10 December, including 44 Company members. Lt. Gen. Walter L. Weible, Executive Vice President, AUSA, spoke on the AUSA and its place in national defense. After the open meeting, the Company members met General Weible in a closed meeting and continued the discussion.

IDAHO STATE COLLEGE COMPANY, Idaho State College, Pocatello, Idaho—*Captain:* Cadet Dean L. Showers; *First Lieutenant:* Cadet Ronald

SAN ANTONIO, TEX. Officers of Alamo Chapter pose at a meeting that touched off a membership campaign. Left to right: Col. J. Hamilton Savage, Jr., Second Vice President; Capt. Badger V. Upton, Secretary; Lt. Col. Reagan Houston, III, President; Chaplain (Major) D. M. Reardon, Chaplain; Gen. William H. Simpson, First Vice President; Col. C. E. Brand, Judge Advocate. Absent: Col. John W. Beretta, Third Vice President; Col. E. C. Peters, Treasurer.

NURNBERG, GERMANY. Newly elected officers of Nurnberg Area Chapter. Left to right: Lt. Col. William H. Dodge, Treasurer; MSgt Raymond J. Kline, Second Vice President; Brig. Gen. William F. Ryan, President; Capt. Thomas F. Ellzey, Secretary; Lt. Col. John R. Himmelright, First Vice President.

Pugmire; *Second Lieutenant:* Cadet Harvey I. Buckles; *First Sergeant:* Cadet Corwin Lott.

Col. John F. Schmelzer, Chief, U. S. Army Military District, Idaho, addressed 18 December meeting on the subject of AUSA and the requirement for a modern army. A combat film, "First Forty Days in Korea," completed the program.

ILLINI COMPANY, University of Illinois, Champaign, Illinois—*Captain:* Cadet Armand Ferrini; *First Lieutenant:* Cadet Kenneth Weber; *Second Lieutenant:* Cadet Charles W. Thompson; *First Sergeant:* Cadet Ray L. Allison.

Meeting 17 December featured a talk on investments by Mr. Don J. Fernandez, of Merrill Lynch, Pierce, Fenner and Beane.

KEMPER MILITARY SCHOOL COMPANY, Kemper Military School, Boonville, Missouri—*Captain:* Cadet Ira M. Click; *First Lieutenant:* Cadet Fred M. McLane; *Second Lieutenant:* Cadet Robert E. Ebersole; *First Sergeant:* Cadet Rael F. Amos.

Chartered on 26 December 1957.

LOYOLA COLLEGE COMPANY, Loyola College, Baltimore 10, Md.—*Captain:* Cadet Gordon Lee; *First Lieutenant:* Cadet Leo Romeo; *Second Lieutenant:* Cadet Donald Rohr; *First Sergeant:* Cadet John Cole.

Colonel Minot, PMST, spoke on AUSA for the benefit of the new members at the 30 October meeting. The meeting 8 November featured a film, "Guided Missiles, Basic Characteristics," with commentary by Cadet Gerald Birch. Meeting 13 December was conducted by Major Smythe and Lieutenant Flynn of Air Research and Development Command.

MOCCASIN COMPANY, University of Chattanooga, Chattanooga, Tenn.—*Captain:* Cadet John Doyle; *First Lieutenant:* Cadet Hoyt Jenkins; *Second Lieutenant:* Cadet Lawrence Putnam; *First Sergeant:* Cadet Thomas Murphy.

Moccasin Company provided the regimental commanders for three of the five parades held at Fort Campbell ROTC Camp in 1957, and the outstanding cadet of the camp, Cadet John Dyer, was a Moccasin member. The Company has purchased shooting jackets for the ROTC rifle team. Ten new members joined the Company for the 18 November meeting.

HEIDELBERG, GERMANY. Maj. Gen. Clark L. Ruffner, Chief, MAAG, West Germany, lectures on "The Present and Future of the New German Armed Forces" at a meeting of some four hundred members of Heidelberg Chapter.

WASHINGTON, D. C. Lt. Gen. Walter L. Weible, Executive Vice President of AUSA, congratulates Cadet Major George Landegger, Captain of Georgetown ROTC Company, after addressing the Company. Others in the group are, left to right: Cadet Lt. Col. Robert Spazzarini, Lt. Col. Louis H. Ressijac, PMST, and Cadet Capt. John Leide.

THE MONTANA STATE UNIVERSITY ARMY ROTC COMPANY, Montana State University, Missoula, Montana—*Captain:* Cadet William Good; *First Lieutenant:* Cadet Gerald Miller; *Second Lieutenant:* Cadet Fred Weldon; *First Sergeant:* Cadet William Crawford.

AUSA Company will sponsor a basketball team, to be entered in the Missoula City League; a Company bowling team already exists. Meeting 3 December planned for military ball.

PENNSYLVANIA STATE UNIVERSITY COMPANY, The Pennsylvania State University, University Park, Pa.—*Captain:* Cadet Gordon K. Pollard; *First Lieutenant:* Cadet Keith F. Vansant; *Second Lieutenant:* Cadet Albert J. Chukusky; *First Sergeant:* Cadet Frank H. Morris.

Cadet Leroy Edwards was presented with a miniature saber as the outstanding pledge, at the Company meeting 17 December. The program included a film on Ranger training.

ROBERT E. SYLVEST COMPANY, Northwestern State College of Louisiana, Natchitoches, La.—*Captain:* Cadet Robert F. Kelley; *First Lieutenant:* Cadet Gerard Schorr; *Second Lieutenant:* Cadet Donald G. Walker; *First Sergeant:* Cadet George C. Davis.

The Company was awarded $35 as fourth prize for its entry in the Natchitoches Christmas parade. Meeting 9 December featured films on atomic bomb effects and protection from atomic blast.

"SOONER COMPANY," University of Oklahoma, Norman, Oklahoma—*Captain:* Cadet Richard L. Teel; *First Lieutenant:* Cadet Charles W. Henry, Jr.; *Second Lieutenant:* Cadet John L. Walter; *First Sergeant:* Cadet Rex J. Woods.

Chartered on 26 December 1957.

ST. NORBERT COLLEGE COMPANY, St. Norbert College, West de Pere, Wisconsin—*Captain:* Cadet Duane L. Hoerning; *First Lieutenant:* Cadet Richard Van Egeren; *Second Lieutenant:* Cadet Lawrence Woulf; *First Sergeant:* Cadet John Payne.

Lt. Patrick Fleming, who recently completed a six-month active-duty tour, was principal speaker at 10 December meeting, telling of his experiences on duty, and answering questions about duty with the Army. A film, "The Mission of the Army," was shown.

V. RAYMOND EDMAN COMPANY, Wheaton College, Wheaton, Illinois—*Captain:* Cadet Ardon Toland; *First Lieutenant:* Cadet Robert Adolph; *Second Lieutenant:* Cadet Bruce Anderson; *First Sergeant:* Cadet James J. Cicero.

Chartered on 26 December 1957.

WASHINGTON AND JEFFERSON ROTC COMPANY, Washington and Jefferson College, Washington, Pennsylvania—*Captain:* Cadet John C. McEwan; *First Lieutenant:* Cadet John A. Wester; *Second Lieutenant:* Cadet Geoffrey W. Bennett; *First Sergeant:* Cadet Thomas A. Halter.

Chartered on 5 December 1957.

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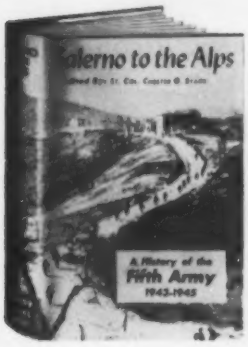

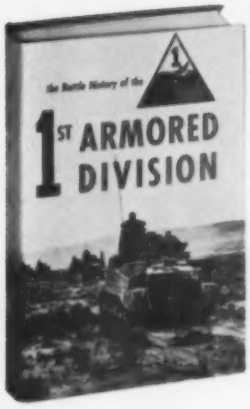

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